Vietcap

Company report

CMC Corporation (CMG)

NOT RATED

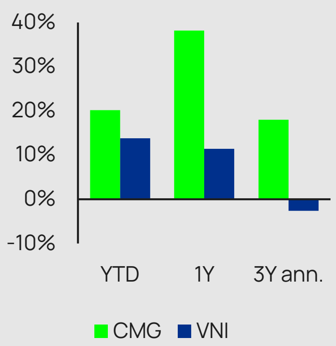
Industry	**Technology**
Report Date	**October 21, 2024**
Current Price:	VND52,700
Fair Value:	**VND58,400**
Upside to FV:	10.8%
Dividend Yield:	0.9%
Market Cap:	USD401mn
Foreign Room:	USD27.3mn
30D ADTV:	USD1.2mn
State Ownership	0%
Outstanding Shares	190.4 mn
Fully Diluted O/S	190.4 mn

	CMG	VNI
P/E (ttm)	30.5x	15.8x
P/B (cur.)	3.6x	1.7x
ROE	11.9%	12.0%
ROA	4.4%	1.8%

Company overview

CMC Corporation (HOSE: CMG), established in 1993, is the second largest listed IT services provider in Vietnam and mainly provides software services, Internet, and data center services. CMG has achieved an NPAT-MI CAGR of 24% over the last three years due to its strategic focus on strengthening its global IT and data center businesses.

Share price performance



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VND bn	FY2023	FY2024F	FY2025F	FY2026F
Revenue	7,342	8,102	9,171	10,394
Revenue % YoY	-4.2%	10.4%	13.2%	13.3%
NPAT-MI	337	402	491	596
NPAT-MI % YoY	8.4%	19.4%	22.3%	21.2%
EPS % YoY	12.2%	19.4%	22.3%	21.2%
GPM	18.7%	19.0%	19.2%	19.5%
OPM	5.4%	6.3%	7.1%	7.8%
PBT margin	6.3%	7.1%	7.8%	8.3%
NPM	4.6%	5.0%	5.4%	5.7%
P/OCF	17.5x	9.3x	8.2x	6.9x
EV/EBITDA	9.0x	9.3x	9.5x	8.8x
P/E	29.4x	24.6x	20.2x	16.6x
P/B	3.8x	3.4x	3.0x	2.6x
ROE	13.2%	14.4%	15.6%	16.5%

Note: 'FY' denotes 'financial year'; CMG's financial year is the 12 months ending on March 31, i.e., FY2023 runs from April 1, 2023, to March 31, 2024.

Global IT, Digital Infrastructure driving strong growth

- CMC Corporation (HOSE: CMG) is the second largest listed IT services provider in Vietnam. CMG provides IT & software services, Internet, data center, and education services.
- In FY2019-23, CMG posted an 11% revenue CAGR and a 24% NPAT-MI CAGR, driven by the company's profitable digital infrastructure services and the widening PBT margin of its global business in FY2020-23. CMG's technology & solutions segment was the largest contributor to the company's revenue during this period, but it had a low average PBT margin of just 1.6% from FY2019-23.
- For FY2023-26F, we expect a 21% NPAT-MI CAGR, driven by (1) the company's expanded global presence and ability to secure larger, higher-margin contracts, and (2) its strong position as one of Vietnam's top-four data center operators, benefiting from growing cloud/AI demand in ASEAN and the Vietnamese Government's digital economy initiatives.
- CMG is currently trading at a TTM P/E of 30.5x, compared to the five-year median TTM P/E of 29.2x of peers in IT services, and 21.5x of telecom & data center peers (see page 25). Our fair value estimate of VND58,300/share puts CMG's P/E in FY2025F at 22.6x and a FY2023-26F PEG of 1.0x.
- Downside risks: failure to scale up its engineer pool and keep pace with changes in technology cycles, weaker-than-expected global IT spending, and fierce competition in data centers.

Global business to have a robust 21% FY2023-26F PBT CAGR, supported by enhanced employee productivity and global presence. We project CMG's global business revenue to post strong growth with a CAGR of 15% in FY2023-26F. Korea and Japan are set to remain the top drivers of this segment, due to (1) robust global DX spending and (2) CMG continuing taking bigger projects and improving its profit per employee in the medium term. In our estimate, CMG's gross profit per employee increased by 12% YoY in FY2023, fueled by short-term tailwinds in Vietnamese labor costs and the company's focus to move up the IT services value chain.

Management's focus on the data center subsegment over the long term to drive 18% FY2023-26F PBT CAGR in digital infrastructure. We project respective data center growth of 19%/17%/16% YoY for FY24F/25F/26F, driven by higher utilization, while telecom services (non-data center) are expected to grow at a 7% CAGR in FY23-26F. This growth aligns with rising cloud demand and Vietnam's fixed-line broadband revenue CAGR of 5% (2018-22), per the Ministry of Information and Communications (MIC). In the longer term, CMG's management aims to develop three more hyperscale data centers with a total capacity of 80MW, demonstrating the company's strategic focus on this business and leading to our belief that CMG will be able to benefit from high demand for AI infrastructure development initiatives in Vietnam.

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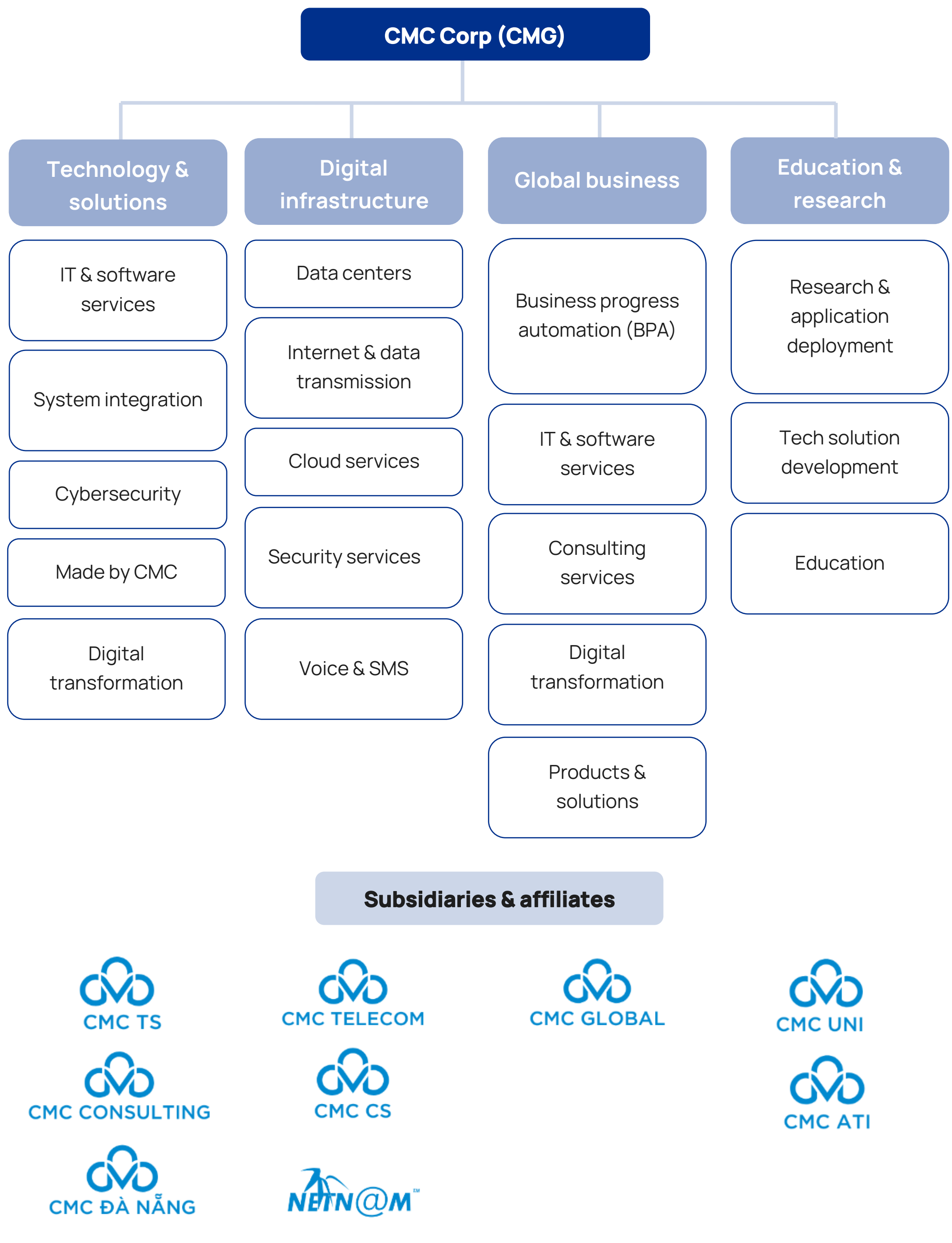
Company Overview

Business structure

CMC Group (HOSE: CMG) is the second largest listed IT-Telecom company in Vietnam. Established in 1993, the company provides a wide range of services in four segments: technology & solutions which provides IT outsourcing services in the domestic market, global business which provides IT outsourcing services in overseas markets, digital infrastructure which consists of Internet lease line, data center, and cloud services, and education & research which mainly focuses on undergraduate training and tech incubation (**Figure 1**).

Figure 1: CMG's products and services by business segment as of end-H1 2024



Source: CMG, Vietcap

CMG owns eight direct subsidiaries and one affiliate (Netnam JSC) as of the end of H1 2024 (details in **Figure 2**). Per CMG, its main trade areas are in Vietnam, Korea, Japan, the EU, the US, and other countries in Southeast Asia.

Figure 2: CMG's subsidiaries and affiliates as of end-H1 2024

Subsidiaries & affiliates	Location	Main business	CMG's effective ownership %	CMG's investment cost (VND bn)
Direct subsidiaries				
Technology & solutions				
CMC Technology & Solutions Ltd (CMC TS)	Hanoi, Vietnam	Sales of software and IT services.	100%	310
CMC Consulting JSC	Hanoi, Vietnam	Providing consultancy service regarding IT strategy and distribution of software services.	100%	40
CMC Da Nang Ltd	Da Nang, Vietnam	Providing system hardware and electronic devices.	100%	100
Global business				
CMC Global Ltd	* Singapore (CMC APAC) * Kanagawa, Japan (CMC Japan) * Seoul, Korea (CMC Korea)	* Sales of digital transformation, cloud solutions and other IT services on the global scale, mainly in the Japan, Korea, APAC, and EU markets. * CMC Global's subsidiaries include CMC APAC, CMC Japan, CMC Korea, and CMC Blue France (ceased operations).	100%	200
Digital infrastructure				
CMC Telecom JSC	Hanoi, Vietnam	Offering internet and network services, and data centers.	54.63%	633
CMC Cyber Security Ltd (CMC CS)	Hanoi, Vietnam	Sales of cybersecurity solutions.	100%	50
Education & research				
CMC Education (CMC Edu)	Hanoi, Vietnam	* Providing education services. * CMC Edu's subsidiaries include CMC University and CMC Uni Investment.	100%	250
CMC Applied Technology & Innovation (CMC ATI)	Hanoi, Vietnam	Research and apply high-tech solutions.	100%	5
Affiliates				
Netnam JSC (under Digital infrastructure business)	Hanoi, Vietnam	Intertnet service provider.	41.14%	41

Source: CMG, Vietcap; [1]Indirect ownership via CMC Global and CMC Education.

Management and ownership structure

CMG is led by veteran key personnel experienced in the tech and telecom sectors (**Figure 3**). The management team has been with the company since its early stages, including founder cum Executive Chairman Nguyen Trung Chinh who is still involved in navigating CMG's direction, which we believe will help the company to maintain stability and consistency in the company's strategy and operations.

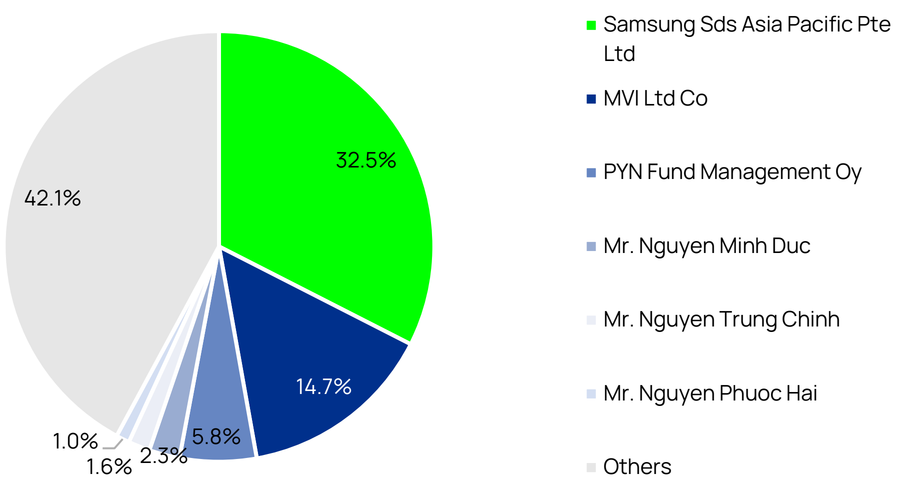
Diversified shareholder base; strategic foreign shareholdings of Samsung SDS to benefit core business (Figure 4): CMG has a diversified shareholder base, with 5.2% of the company owned by its management team. CMG's largest shareholder, Samsung SDS Asia Pacific Pte Ltd (32.5% stake), brings valuable IT service expertise and a broad customer base in Asia Pacific. Additionally, foreign institutional investors hold 42.9% of CMG's shares, close to its 50.0% foreign ownership limit, reflecting strong international appeal.

Figure 3: CMG's key management/director personnel

Name	Position	% stake	Industry background	Experience with CMG
Mr. Nguyen Trung Chinh	Executive Chairman	1.63%	Engineering	Founder of CMG and has had the role of Executive Chairman since 2020.
Mr. Nguyen Phuoc Hai	COO, Deputy Director, BOD member	1.01%	Engineering	A member of CMG's BOD since 2007 and became CMG's COO in 2020.
Mr. Nguyen Minh Duc	BOD member	2.30%	Legal	A CMG BOD member since 2007.
Mr. Ngo Trong Hieu	Deputy Executive Chairman	0.03%	Engineering	Prior to become CMG's Deputy Executive Chairman, he was CMC Telecom's CEO in 2015-2020 and CMG's CEO in 2020-2023.
Mr. Ho Thanh Tung	CEO	0.06%	Engineering	CMG's Deputy CEO in 2017-2021.
Mr. Dang Ngoc Bao	Deputy CEO	0.03%	Engineering	CEO of CMC Global in 2020-2023 and has served as CMG's Deputy CEO since 2023.
Mr. Nguyen Minh Tue	CFO	0.01%	Finance	Mr. Tue became CMG's CFO in August 2024, prior to that he was CMG's Head of Finance & Planning.

Source: CMG, Vietcap

Figure 4: CMG's ownership structure as of end-September 2024

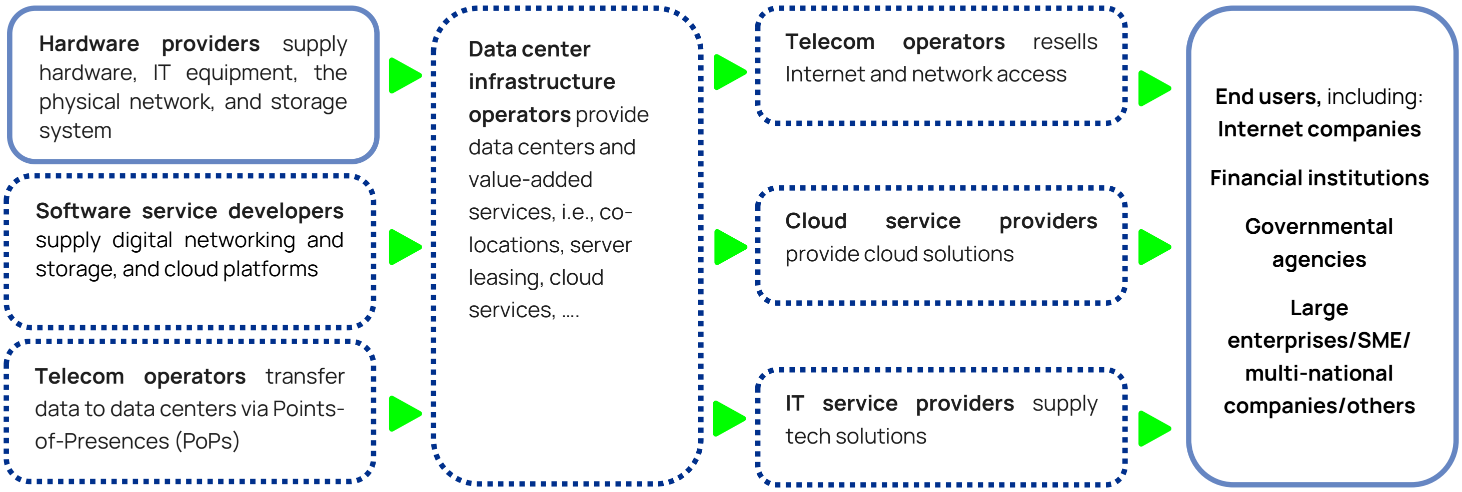


Source: CMG, Bloomberg, Vietcap

Digital infrastructure business is the profit mainstay, while global business experienced strong earnings growth over the past three years

CMG mainly derives its earnings growth from its three core businesses including technology & solutions, global business, and digital infrastructure. As an IT service provider, CMG broadly involves in the industry value chain of technology, from Infrastructure-as-a-service providing Internet networks & servers and data center services to software & IT solutions (**Figure 5**). In FY2019-23, digital infrastructure business contributed on average 81% of CMG's PBT, followed by Global business with an average contribution of 26% to the company's PBT (**Figure 6 & 7**). While accounting for a majority of revenue mix in FY2019-23 (average 54% of total revenue), Technology & solutions business have relatively low contribution to CMG's profit and sees a lower contribution to total revenue over time. Others comprises mainly of Inter-eliminations, investments and provisions of investments in new projects and start-ups. In **Figure 5**, we provide an analysis on how CMG engages in the Internet value chain. Please refer to **Appendix A1** for clearer illustration of the Internet supply chain.

Figure 5: Data center and IT services industry value chain



CMG engages in the Internet value chain

*** Under digital infrastructure,** CMG joined TGN-IA and APG subsea cable consortium and rents from other subsea owners to provide data transmission networks; it also owns peering facilities connected to subsea landing stations and data centers for data processing.

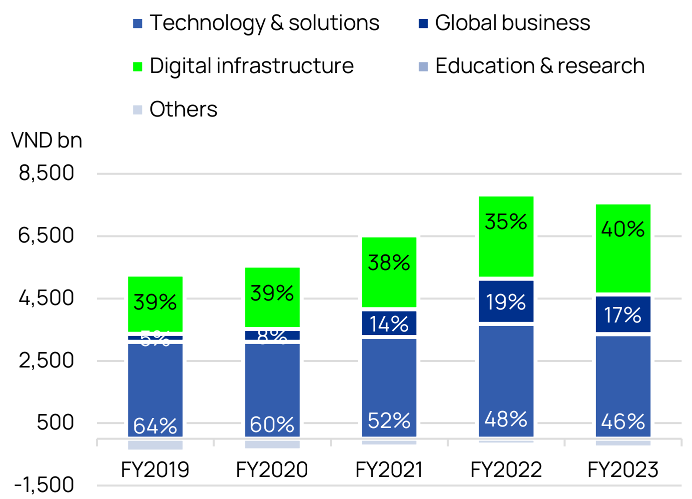
* **Under Technology & solutions**, CMG provides multi-cloud platforms and virtual servers (**Appendix A3**).

* **Digital infrastructure** resales Internet access and cloud solutions to its business clients.

* **Technology subsegments** provide technology solutions to onshore and offshore business clients

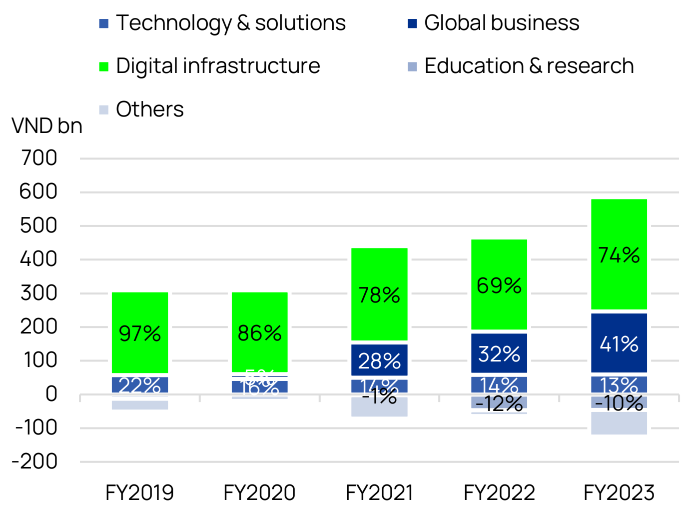
Source: Vietcap compilation

Figure 6: Revenue by segment in FY2019-23, VND bn



Source: CMG, Vietcap

Figure 7: PBT by segment in FY2019-23, VND bn



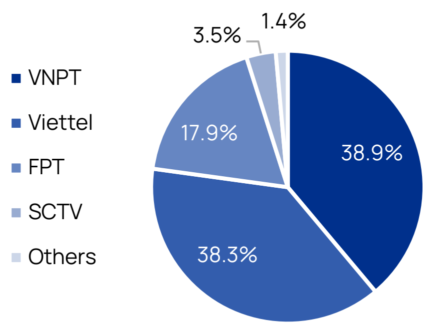
Source: CMG, Vietcap

Steady digital infrastructure growth with solid position in data center market

Digital infrastructure business is mainly comprised of telecom services and data centers. CMG's telecom services, including Internet transmission & lease lines and multi-cloud services (**Appendix A2 & A3**), account for ~70% of FY2023 digital infrastructure revenue, per our estimate. CMG only provides Internet services to corporate clients, which makes its market share in fixed-line broadband networks insignificant vs the big three telcos in Vietnam (Viettel, VNPT, and FPT; **Figure 8**). As the Vietnamese internet population has reached its maturity stage (79% penetration rate in FY2023) per the MIC, we believe the Internet lease line segment has limited growth headroom going forward. Additionally, CMG's cloud business is among the top-three domestic cloud service suppliers, accounting for nearly 4% of the cloud services market in Vietnam (**Figure 9**), while foreign hyper-scalers (AWS, Microsoft, and Google) account for the dominant market share of the local cloud market. We note that to reduce latency of data-intensive services such as streaming and cloud storage, foreign Internet-based service providers store their data in Vietnam (1) directly by renting capacity in local data centers or (2) indirectly using other third-party cloud services. As such, foreign players are both competitors (in end-user solutions) and clients of local players (for infrastructure leasing).

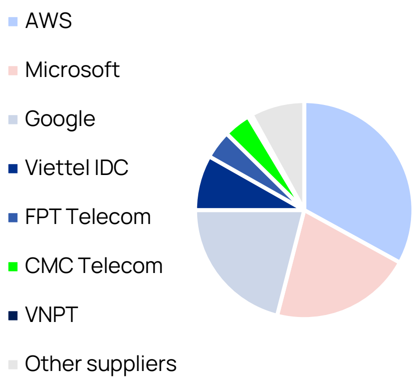
One of the key players in Vietnam's data center market: We estimate that the data center business contributes nearly 30%/11% of CMG's FY2023 digital infrastructure/total revenue, respectively. According to "Vietnam's Technology Trends 2023-2025" report, local players dominate the data center market in Vietnam, among which FPT, Viettel, VNPT, and CMC hold a combined value market share of nearly 97% (**Figure 10**). CMG currently runs three data centers, two in Ho Chi Minh City and one in Hanoi with a total capacity of 11 MW (**Figures 11 & 12**). In the long term, the company plans to add three new data centers with a total capacity of 70 MW, in which the data center SHTP 2 project was approved by shareholders in CMG's FY2024 AGM and is in its fundraising stage (see page 21 for details). With a focus on hyperscale data centers in the long term, we believe CMG aims to cater to computation-intensive workloads from cloud computing and AI demand, which we think is in line with the Vietnamese Government's directions to be discussed further in the Market Outlook section.

Figure 8: Market share of key fixed-broadband telco providers in Vietnam by revenue, 2023



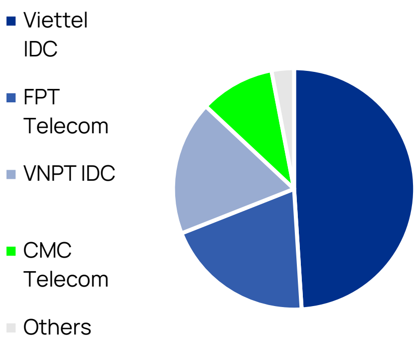
Source: VNCDC, Ministry of Information and Communications, Vietcap

Figure 9: Cloud service providers' market share in Vietnam by revenue, 2023



Source: VNCDC, Ministry of Information and Communications, Vietcap

Figure 10: Data center market share of key players in Vietnam by capacity (MW), 2023



Source: VNCDC, Ministry of Information and Communications, Vietcap

Figure 11: Vietnam's top players in Tier III data centers, as of September 2024

	FPT Telecom	Viettel IDC[1]	VNPT IDC	CMC Telecom
Number of data centers	3	14	7	3
Total designed rack capacity	3,640	11,500	3,725	2,800
Floor area (m^2)	4,473	81,000	45,550	16,500
Average monthly service revenue (MSR, VNDmn/rack/month)	32.7	31.7	27.3	31.5
Power IT load per year (MW)	20	87	30	11
Power usage effectiveness (PUE)[2]		1.5 – 1.6		

Source: Company disclosures, Vietcap's compilations and estimates. [1]Viettel IDC's total internal and external facilities, only five of which are commercialized; [2]Industry range in Vietnam.

Figure 12: CMG's data center projects

	Launch schedule	CMC Telecom's ownership	Location	Land site area (m2)	Number of racks	Tier design	Designed IT load (MW)
Current projects							
CMC Tower	Sep 2011	100%	Hanoi	5,500	1,100	TIA 942 – Rated 3	4.6
CMC SHTP	Oct 2012	100%	HCMC	2,100	500	TIA 942 – Rated 3	0.8
CMC Tan Thuan	Aug 2022	100%	HCMC	10,000	1,200	Uptime Tier III	5.6
Planned projects							
CMC Tay Ho Tay	2027	N/A	Hanoi	11,000	N/A	Uptime Tier III	10
CMC SHTP 2	2028	20%	HCMC	30,203	3,000	Uptime Tier III	30
CMC Hoa Lac	2030	N/A	Hanoi	39,000	N/A	Uptime Tier III	30

Source: CMG, Vietcap

Technology & solutions gradually shifting towards high value work; Global business profit leaped over the past three years

Moving up the value chain to widen profit margins for the technology sector (**Figure 13**): Regarding the technology & solutions segment, CMG mostly conducts low-value system integration and hardware/ICT rental services in the domestic Vietnamese market for small and medium enterprises (SMEs). To improve profitability of this segment, CMG has switched its focus on this segment to providing digital transformation (DX) services, which contributes roughly 26% to the technology & solutions segment according to CMG's FY2023 Annual Report. Similarly, CMG's global business segment also focuses on providing DX services to clients across industries.

Figure 13: CMG's technology sector breakdown by horizontal (products & services) and vertical (clients' industries) coverage

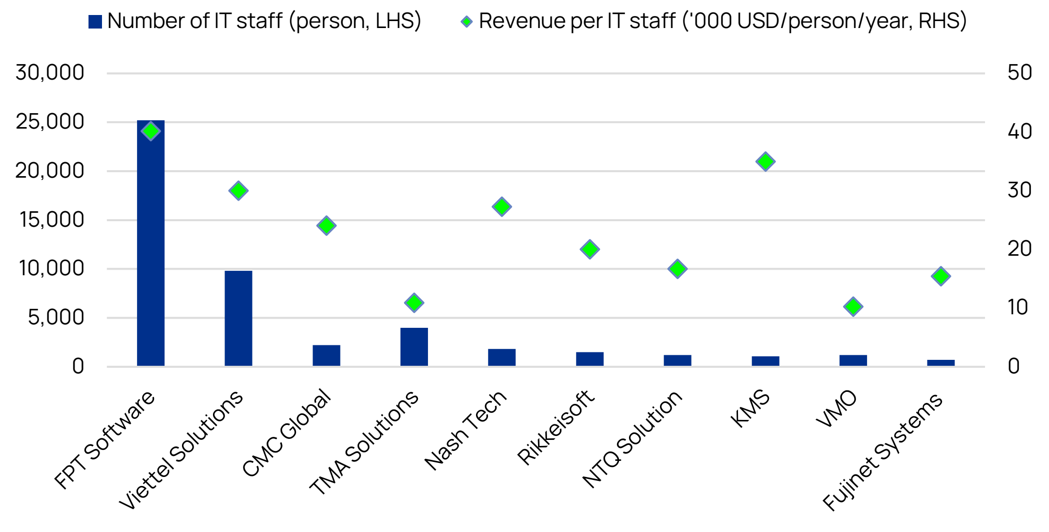
Segment	Product/Services	Key vertical industry
Technology & solutions		
System Integration & IT services Digital transformation services (DX)	Managed and technical support services, ICT rental services, business operation outsourcing services, cybersecurity services, data center services * Services: Robotics Process Automation (RPA), Blockchain, Digital Experience for Customers; Cloud Consulting and Applications, Machine Learning & Data Analytics, e-Know-Your-Customer, Big Data, Internet-of-Things; Smart Factories/Cities; AI * Products: C-Suite, CIVAMs Face, CMC Social Listening, CMC Chatbot, CMC Blockchain, C-ID Reader, and other C-Solution packages	Public sector banking, insurance, and financial services (BFSI) Manufacturing Real Estate Utilities Transportation Media & Entertainment
Global business		
Traditional IT services DX services	Custom software development, maintenance, testing, legacy migration * Services: Cloud computing, low code, RPA services, Data Analytics * Products: Similar to the products in Technology & solutions	BFSI Automotive Logistics Manufacturing Healthcare Media & Entertainment

Source: CMG's website, Vietcap's compilations

CMG has been expanding its IT service business and aggressively expanded into overseas markets since FY2017 by developing sales bases primarily in Korea, Japan, the EU, US, and Southeast Asia. The company's main software export market is Korea, accounting for around 30%-40% of CMG's global business segment's revenue. Samsung SDS is CMG's biggest client, per CMG. According to the company's FY2023 Annual Report, global business in the Korea and Japan markets grew 3% YoY and 4% YoY in 2023, respectively. As of year-end FY2023, CMG has approximately 500 international clients across multiple vertical industries.

Vietnam's fragmented IT outsourcing sector is dominated by FPT Software, CMC Global portraits competitive productivity vs other domestic players. Per our estimate, FPT Software, Viettel Solutions, CMC Global, Nash Tech, and KMS recorded the highest revenue per IT employee among the top IT service companies in Vietnam in 2022-23 (**Figure 14**). Most Vietnamese companies have strong exposure to the Japan market (**Figure 15**) as Vietnam has been Japan's second-largest trading partner in software and IT service exports since 2014, according to the Vietnam Software & IT Services Association (VINASA).

Figure 14: Number of IT employees and revenue per IT employee[1] of Vietnam's leading IT outsourcing companies in 2022-23[2]



Source: CMG, FPT, VINASA, Vietcap compilation; [1] Dividing year-end revenue by year-end labor count; [2] For FPT and CMG we collected 2023 information and data; for other Vietnamese non-listed companies TMA Solutions, Viettel Solutions, Nash Tech, Rikkeisoft, NTQ Solution, KMS, VMO, and Fujinet Systems, the latest data was from 2022; 82% of Viettel Solutions' employees were mobilized/outsourced resources.

Figure 15: Key export market of leading IT outsourcing companies in 2023

Company	Key markets
FPT Software	Japan, US, Asia Pacific, EU
Viettel Solutions	Southeast Asia, Haiti, Cameroon, Mozambique, Burundi, Tanzania
CMC Global	Korea, Japan, Southeast Asia, EU, US
TMA Solutions	EU, US, New Zealand, Asia
Nash Tech	UK, EU, US, Australia, Japan, Vietnam, Southeast Asia
Rikkeisoft	USA, Japan, EU, APAC
NTQ Solution	Japan, Korea, Hong Kong, EU, US
KMS	US
VMO	USA, Japan, EU, APAC
Fujinet Systems	Japan

Source: Company's disclosure, Vietcap compilation

New education business to post solid earnings contribution in the long term

CMG entered the education business in FY2022, when the company acquired the Asia University of Arts and Design in Hanoi and changed its name to CMC University. CMG mainly provides undergraduate education with two campuses in Ha Dong District and an up-coming campus in Nam Tu Liem District (**Figure 16**). In FY2023, CMC University recruited 950 newly enrolled students, with new enrollment growth of 174% YoY. Among the current 1,300 students, approximately 500 students are in technology programs, and the company grants job opportunities to 100% of its students to work at CMG, Samsung SDS, or other strategic partners. While education's PBT contribution of CMG's total earnings is minimal (4% of total PBT in 2023, per our estimate), we think the company's venture into tech education and training is a common practice among IT service companies due to the shortfall of qualified IT labor in Vietnam. We expect this segment to see a 53% PBT CAGR in FY2023-26F and account for 10% of CMG's total PBT in FY2029F following high demand for technology and private education in Vietnam over the long term.

Figure 16: CMC University's three campuses and head office locations in Hanoi

Source: Company's website, Google, Vietcap

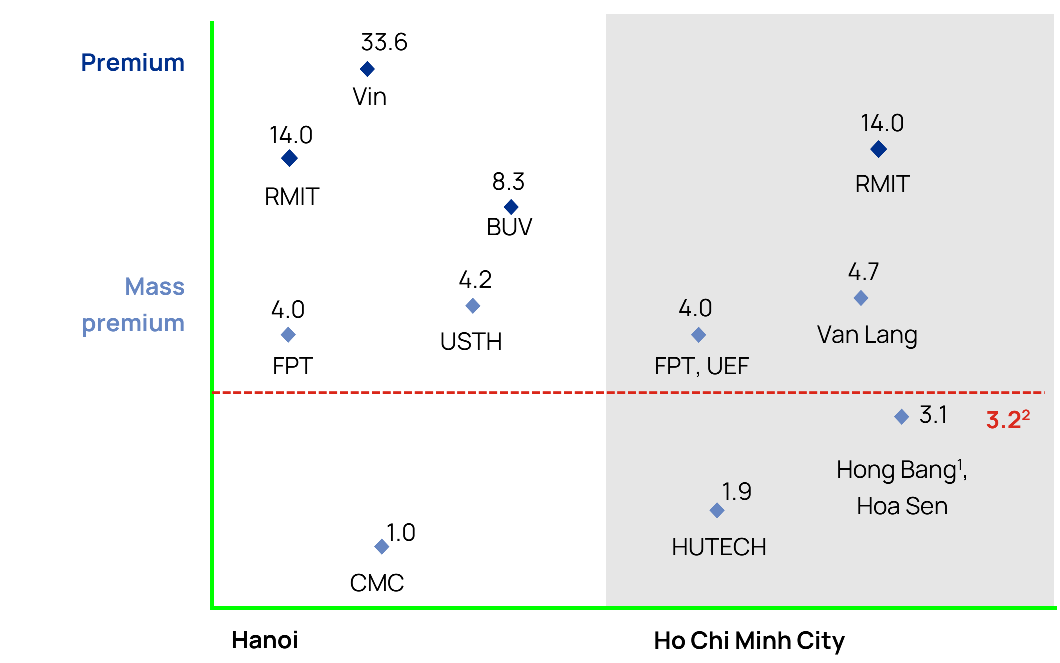
Private universities in Vietnam are mainly centered in Hanoi and Ho Chi Minh City, with less pricing competition in the mass segment for CMC University in Hanoi (**Figures 17 & 18**). While we see significant demand for private education in Vietnam, we believe CMC University's goal of reaching 10,000 students by FY2028, as stated in its FY2023 Annual Report, is ambitious. We believe the company should strengthen its competitive advantages and brand as a reputable tech training center, beyond offering low tuition and job placement opportunities, to capitalize on the tech training wave and achieve its long-term strategy.

Figure 17: CMC University curriculum and tuition fees

Program	Major	Average tuition fees per year, VND mn/USD Standard (Vietnamese)	Bilingual (English-Vietnamese)
Information Technology	*Software engineering * Cyber Security *Computer engineering * Cloud computing	18.2/729	26.0/1,041
Information Technology Vietnam - Korea	* Similar to Information Technology		30.0/1,200
Information Technology Vietnam - Japan	* Similar to Information Technology		30.0/1,200
Computer Science	* AI & Big data * Software development * Information systems	18.2/730	26.0/1,041
Electronics – Telecommunications Engineering Technology	* Integrated Circuit Design * Advanced Network and Communication Technology * Embedded systems and IoT	18.2/730	26.0/1,041
Business Administration	* Business Administration * Finance – Accounting * Logistics & Supply Chain Management	16.8/673	24.0/961
Marketing	Marketing		
Graphic Design	* Communication Design * Animation	16.8/673	
Language	* Korean * Japanese	15.4/617	

Source: Company's website, Vietcap compilation

Figure 18: Average tuition fee of main private universities in Vietnam's key cities in 2024, thousand USD/year



Source: Company's websites, local media, GSO, Vietcap compilation; [1] Excluding Medical & Pharmacy major; [2] Average income per capita in Hanoi & HCMC

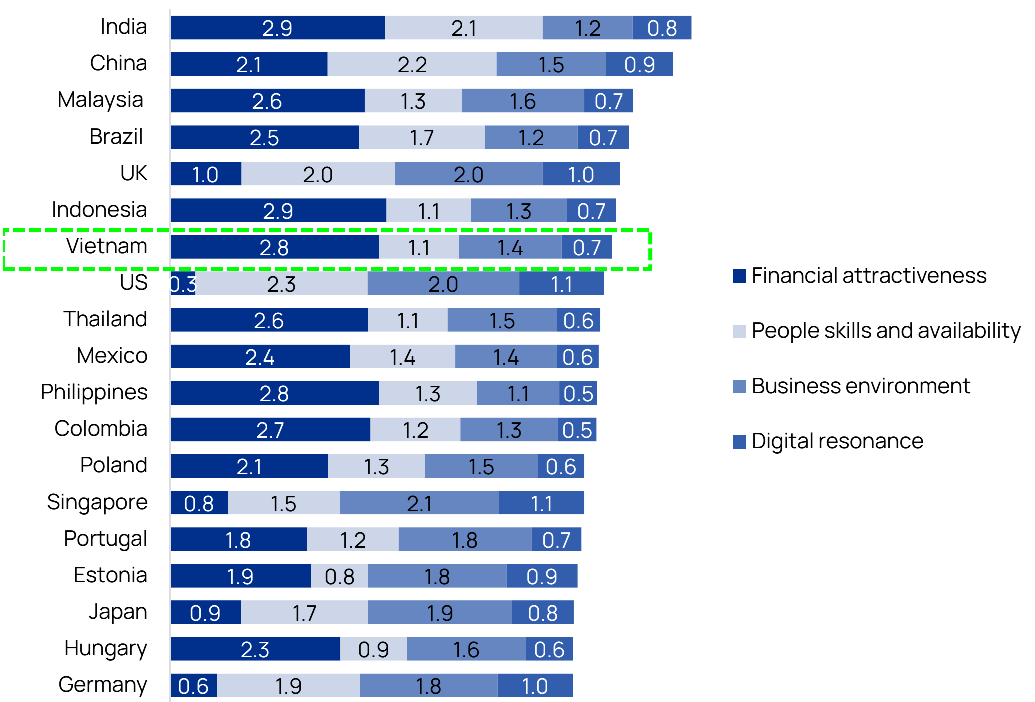
Market Outlook

We believe growth in demand for digital transformation services and data distribution and storage will continue in the long term, led by (1) robust growth in the digital economy and (2) enterprises transitioning to cloud infrastructure, plus the rapid rise of AI adoption. Together with changes in business adoption, demand for a skilled labor workforce of IT professionals continues to form a sustainable growth driver for the educational services industry in Vietnam.

Sizable and fast-growing Vietnam IT service industry to be led by continuous adoption of digital technologies

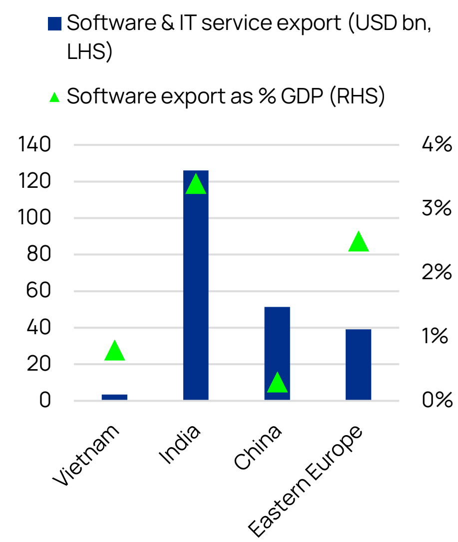
According to the MIC, in 2023, total revenue of the IT sector (software, IT services, and digital content) accounted for approximately 14% of Vietnam's GDP after experiencing an average growth rate of 10% YoY in 2019-23. According to US consulting firm Kearney, Vietnam ranked among the top IT outsourcing destinations in terms of financial attractiveness, people skills and availability, business environment, and digital resonance in 2023, and has consistently maintained this ranking for the past five years (**Figure 19**). **Roughly USD3.5bn of software & IT services** were exported in 2023 (**Figure 20**), which we believe is premised on (1) the country's direction to develop its high-tech sector and (2) a competitive IT workforce both in terms of skills as well as labor costs (**Figure 21**) compared to other developed IT outsourcing destinations such as India, Eastern Europe, and China. Despite such fast growth rate in the past several years, Vietnam's IT labor pool size remains relatively small compared to its peers (**Figure 22**) and the contribution of IT services exports to the GDP was 0.8% in 2023, which implies significant growth headroom for this industry in the long run as the Vietnamese Government aims to become the IT hub of Southeast Asia.

Figure 19: Vietnam was highly ranked by Kearney's Global Services Location Index of IT services in 2023



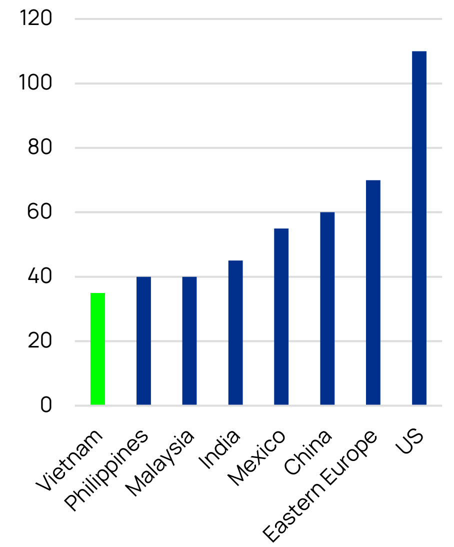
Source: Kearney analysis, Vietcap; Notes: *Financial attractiveness*: cost of labor and infrastructure, *People skills and availability*: quantity and quality of the talent pool, *Business environment*: political, economic, regulatory, and cultural aspects that affect the ease of doing business, *Digital resonance*: digital skills of the labor force and digital output of business activity; the higher the score the better; Kearney's Global Services Location Index includes 78 countries selected based on corporate input, current remote services activity, and Government initiatives to promote the sector.

Figure 20: Software & IT services export value by selected country and region, 2023, USD bn



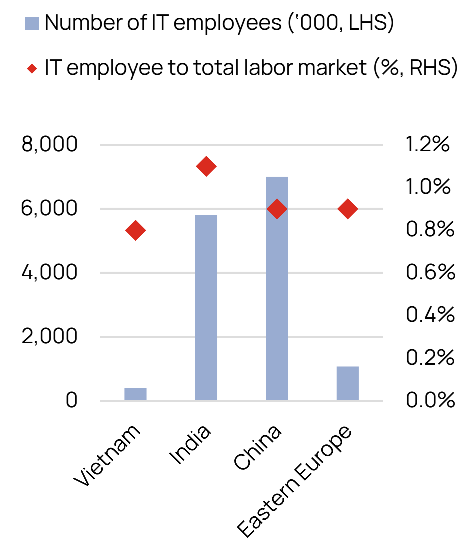
Source: VINASA, Statista, Vietcap

Figure 21: Average hourly software outsourcing rates in Vietnam vs peers, 2023, USD per hour



Source: Payscale, Glassdoor, Vietcap

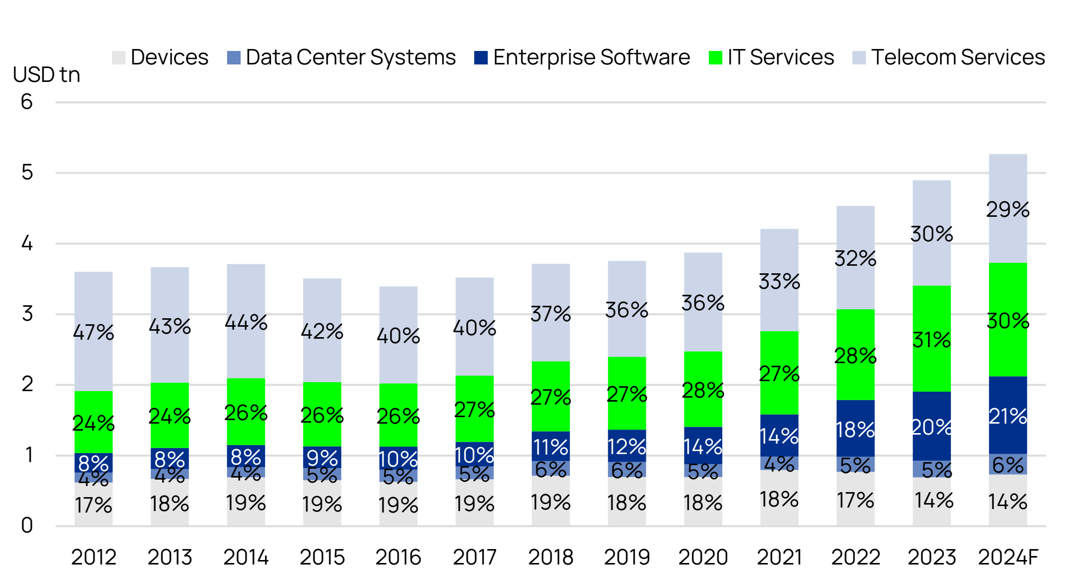
Figure 22: Vietnam's IT labor pool vs peers, 2023



Source: Statista, Vietcap

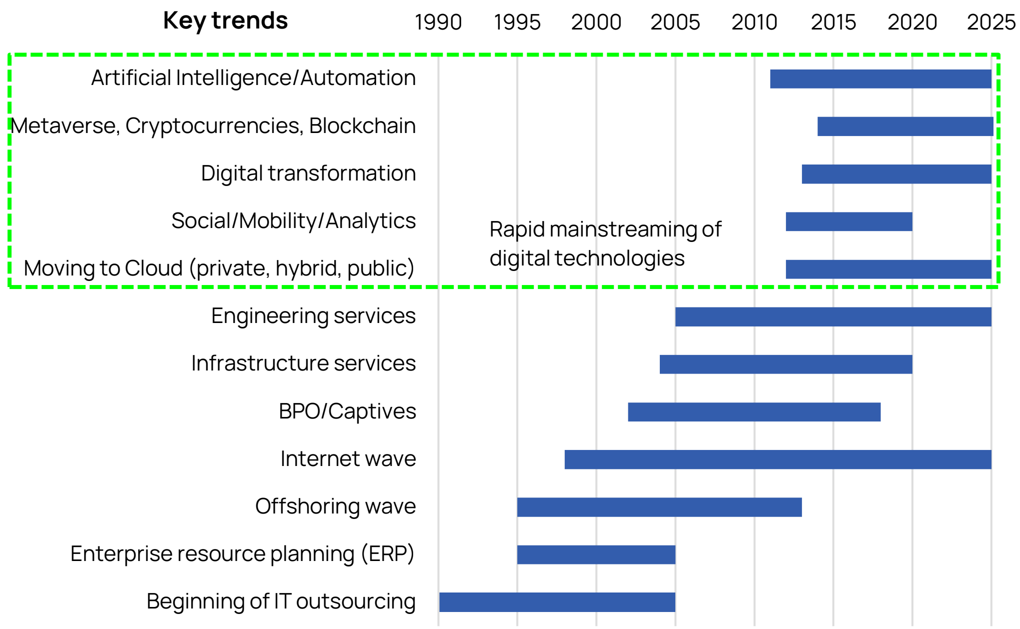
The spending mix of global IT services has remained stable throughout tech cycles, showing resilient demand for IT services vendors (Figure 23). IT services/software spending has steadily expanded to 31%/20% of total IT budgets globally in 2023, respectively, despite the numerous technological cycles that the industry has witnessed over the years. This resilience can be attributed to the fact that each new wave of technological advancement, instead of displacing the need for services, creates additional opportunities for service providers. As businesses adopt new technologies, they often require accompanying services such as consulting, integration, support, and maintenance to ensure smooth implementation and ongoing operations. According to US IT consulting firm Gartner, generative AI drove software-as-a-service, IT services, and data center investment in 2023 and will further lead IT spending in 2024F. We expect that IT service providers will continue to reinvent and build an important role in the new digital technology cycle (**Figure 24**).

Figure 23: Overall worldwide IT spending by segment, % of total



Source: Gartner, Vietcap

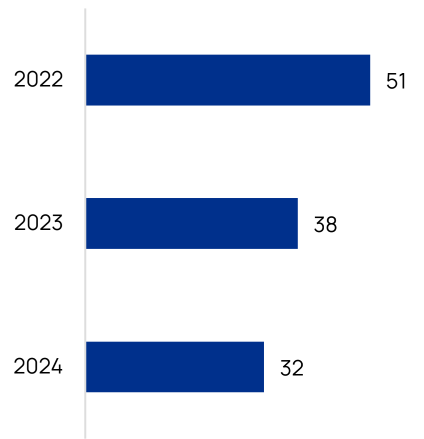
Figure 24: Key disruptions and trends in IT services in 1990-2025 and beyond



Source: Bernstein analysis, Vietcap; Note: The bar represents the peak adoption/mainstreaming of the tech trends.

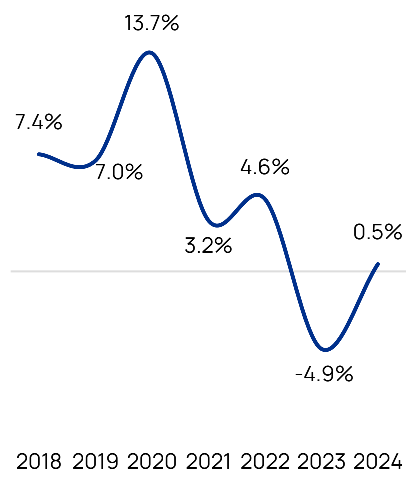
The time to hire has decreased, and wage inflation has slowed in recent years; however, a labor shortage continues to be a bottleneck in Vietnam. According to Vietnamese IT human resource firm TopDev, due to economic headwinds in Vietnam in 2023, most companies' budgets for new IT employee hires were maintained at the current level or decreased, which led to more available IT labor in the job market and a shorter average time to hire a new position (**Figure 25**). As such, the average IT wage also decreased 5% YoY in 2023 and has remained flat in 2024 (**Figure 26**). Despite short-term tailwinds for IT labor costs, a labor supply shortage will continue to be the main concern over the medium-long term in Vietnam (**Figure 27**), especially qualified labor with equipped skills related to emerging digital technologies. Tech companies with a ready labor pool and training system like CMG and FPT might benefit from slower wage inflation in the short term and tech training demand in the long term.

Figure 25: Average days to hire a new IT employee



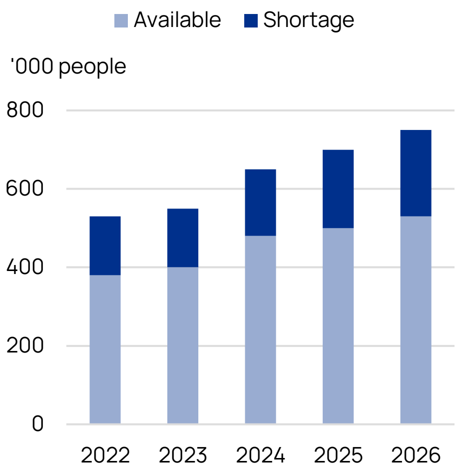
Source: TopDev, VietnamWorks, Vietcap

Figure 26: Average IT wage inflation in Vietnam



Source: TopDev, VietnamWorks, Vietcap

Figure 27: TopDev's IT labor shortage 2024-2026 forecasts



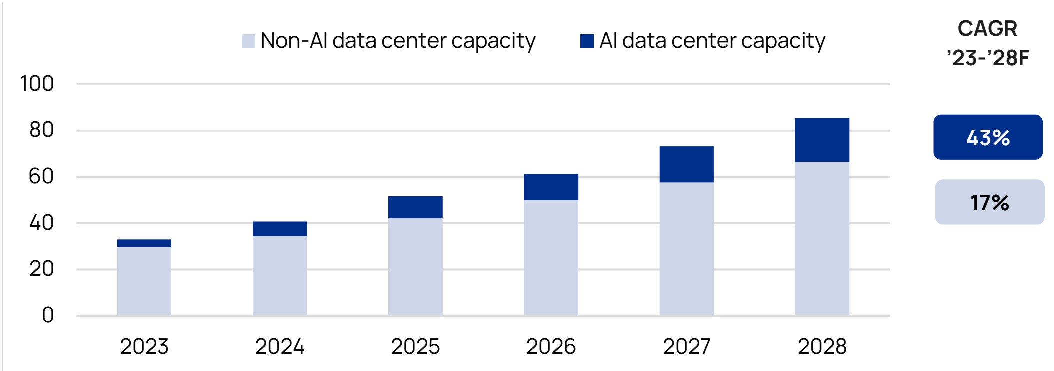
Source: TopDev, Vietcap

Booming AI data center demand in Southeast Asia and Vietnam

Vietnam's data center industry is on the cusp of hyper-growth. The Vietnamese data center market grew 11% YoY in 2023, reaching a total addressable market of USD620mn, per market research company Research and Markets. In our Data Center Sector Report, dated April 17, 2024, we discussed the importance of data centers in the value chain of Internet-based and software-based services, opportunities in the underpenetrated data center market in Vietnam that is backed by Government directives towards technology development, and favorable cost advantages in land prices, construction, electricity costs, and tax incentives to attract investors; and challenges in sub-sea cables and sustainable power supply.

Hyperscale data center demand in the ASEAN market looks promising, as growing data-center capacity plays a pivotal role in enabling robust long-term growth in the digital economy including the rollout of 5G, Internet-of-Things, cloud transition, and AI technology. According to Moody's, AI will drive 30% of incremental data center demand growth in 2023-2028F (**Figure 28**). In addition, according to Bloomberg, geopolitics and US-China trade tensions have turned ASEAN countries, including Vietnam, into a desired destination for data storage and processing. Hence, hyper-scalers (i.e., Microsoft, Amazon, and Google) have ramped up investments across ASEAN countries in recent years (**Figure 29**). We have noted an acceleration in hyperscale data center development in Vietnam, including Google considering a new facility in southern Vietnam, a JV between STT GDC and VNG committing to 60MW in Ho Chi Minh City, and CMG planning 30MW in Saigon Hi-tech Park.

Figure 28: Moody's global data center capacity forecasts, GW



Source: Moody's, Vietcap

Figure 29: Hyper-scalers are ramping up investments across ASEAN

Company	Country destination	Committed investments	Announcement date	Purpose
Microsoft	Malaysia	USD2.2bn in four years	May 2024	AI cloud and digital infrastructure buildout
	Thailand	More than USD1bn	May 2024	Outlays include data center buildout
	Indonesia	USD1.7bn in four years	April 2024	AI cloud and digital infrastructure buildout
Amazon	Singapore	USD9bn in four years	May 2024	Expansion of cloud computing infrastructure
	Malaysia	USD6bn in 14 years	March 2023	Opening of "infrastructure region" and cloud infrastructure and data center
	Thailand	USD5bn in 15 years	October 2022	Opening of "infrastructure region" and cloud infrastructure and data center
Google	Thailand	N/A	November 2023	Confirmed launch of Google Cloud Region and include data center buildout
	Malaysia	N/A	August 2022	Plan to launch Google Cloud Region and include data center buildout
	Vietnam	N/A	August 2024	Rumor to open data center in Vietnam

Source: Company filings, Bloomberg, Vietcap

Data sovereignty/sensitivity requirements amid robust digital economy growth drive substantial investment to ASEAN countries. To attract investment, governments across countries in Southeast Asia offer incentives such as tax rebates and relaxed restrictions on foreign ownership and land use. Since July 2023, Vietnam has adopted data-localization regulations and data protection laws which require companies to store data locally, further accelerating the development of data centers.

Figure 30: Government's incentives and laws in effect across ASEAN

Country	Local government incentives	Adoption of PDPA[1]	Data localization requirement	Cross-border data transfer requirements
Indonesia	Corporate tax rebate of up to 50% for investors in industries related to data hosting and processing.	October 2022	Yes	Cross-border data transfers, data controllers transferring personal data abroad must ensure the recipient's country has a level of data protection at least equal to that required in Indonesia.
Philippines	* Operators outside Manila to get income tax holiday for 4-7 years. * Corporate income tax cuts. * Tax rebates on capex.	2012	No	Cross-border data transfers are scrutinized, no law stipulates that data storage and retention should be within the national borders. Transfers of personal data to third countries are only permissible if there is a legal basis.
Thailand	* Data hosting services (i.e., data centers) are eligible for 8-year tax holiday. * Exemptions for VAT and import duties on machinery used in projects. * Relaxation policy for foreigner land ownership.	June 2022	No	Conditions on cross-border transfers of personal data. In some cases, approval may be required before transferring data across borders.
Malaysia	Launched the "Malaysia Digital Economy Blueprint" in 2018 to promote the use of local data centers and encourage the development of local data protection.	2013	No	Prohibits the transfer of personal data outside of Malaysia unless certain exceptions apply.
Singapore		October 2012	No	Cross-border data transfers are only permitted under a legal basis fulfilling specified conditions such as derogations and binding corporate rules.
Vietnam	Corporates that have high tech projects/business lines to receive: 10% CIT for 15 years; 4-year tax holiday from the first year of profit; 5% VAT rate; exemptions on tariffs for imported machinery and capex related to high-tech projects; reduced or exempted land rental fees.	July 2023	Yes (under Cybersecurity Law)	Must formulate an Overseas Data Transfer Impact Assessment dossier and notify/be controlled by the Cybersecurity Department of the Ministry of Public Security (A05).

Source: Sangfor, Bloomberg, Vietcap; [1]Personal Data Protection Act

The Prime Minister approved Decision No. 1132/QĐ-TTG on Digital Infrastructure Strategy. On October 9, 2024, the Prime Minister approved Digital Infrastructure Strategy 2025, with plans to 2030 (**Figure 31**). In our view, we think the Government's proactive approach to digital infrastructure development will drive stronger demand for digital adoption among consumers and businesses of all sizes. As such, we see significant opportunities for CMG, who is a provider of digital transformation services and data center services to local enterprises.

Figure 31: Decision No. 1132/QĐ-TTG on Digital Infrastructure Strategy

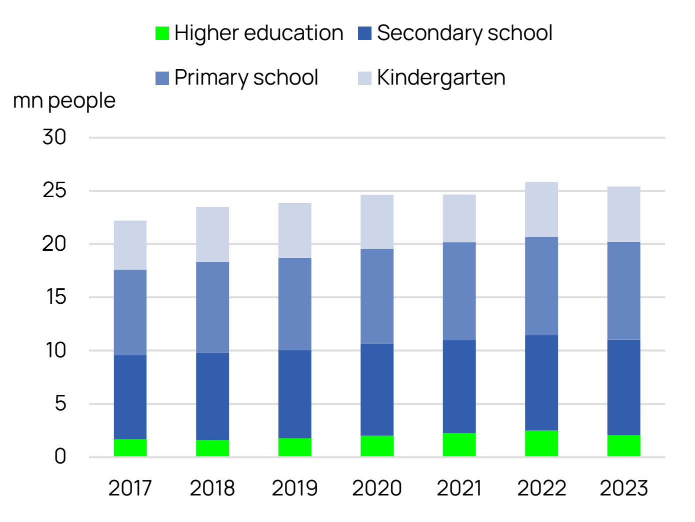
Sector	Goal by 2025	Goal by 2030
Telecom services	* Providing fiber-optic internet to households; 100% of provinces, high-tech zones, research centers, industrial areas, and international ports/airports to have 5G services; deploying at least two new international subsea cables.	* 5G mobile broadband will cover 99% of the population, capacity and readiness for 6G mobile network testing will be established. * At least six new undersea cable routes will be launched, with a design capacity of at least 350 Tbps.
Data center s	* Establishing AI data centers to support AI applications; green data centers meeting international standards with a PUE below 1.4;	* Development of hyperscale data centers, edge data centers, and regional digital hubs will be prioritized.
IT & software services	* Platforms for IoT, AI, big data, blockchain, and cybersecurity as essential digital infrastructures. * Average of one IoT connection per citizen; each citizen has a digital identity; over 50% of the adult population with digital signatures.	* Each citizen will have an average of four IoT connections.

Source: Ministry of Information and Communications, Vietcap

Growing education services to thrive on robust demand for private and tech training in Vietnam

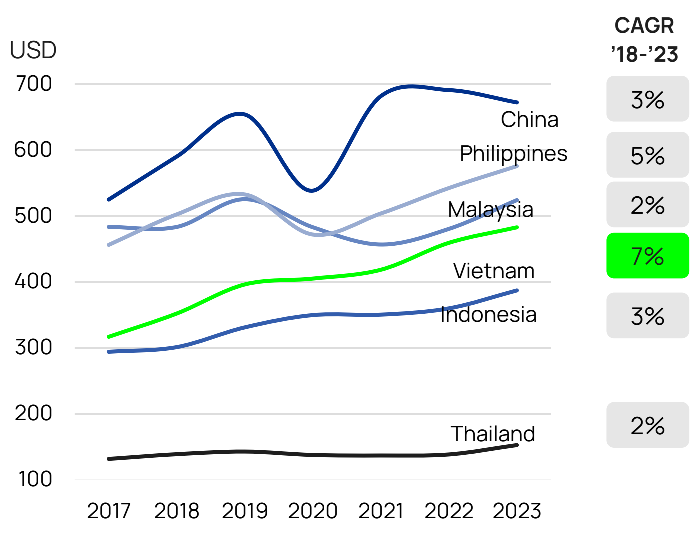
Vietnamese consumer spending on education services was USD12.6bn in 2023, per Euromonitor, with approximately 25 million students in all levels in 2023 (Figure 32). Growth in savings per household allowed Vietnamese people to spend more on education, which grew at a 7% CAGR in 2018-23, stronger than that of other selected countries in Southeast Asia (**Figure 33**). For the Vietnamese education system's structure, please see **Appendix B.**

Figure 32: Number of students by level



Source: Ministry of Education & Training (MOET), local media, Vietcap

Figure 33: Consumer expenditure on education per household (USD) in Vietnam and selected countries

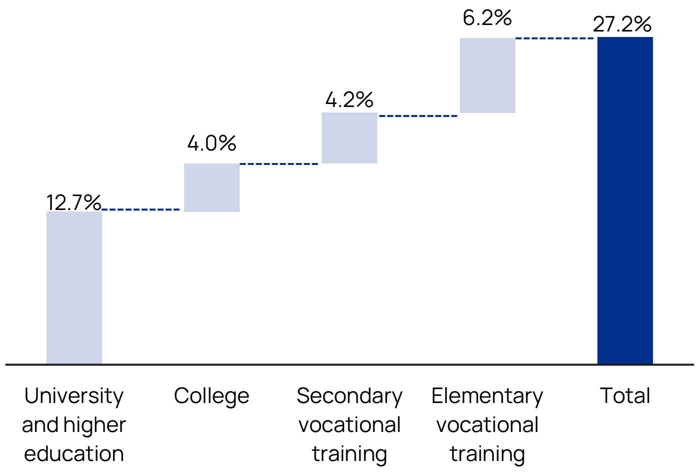


Source: Euromonitor, Vietcap

We believe there is ample growth headroom for private education. In 2023, only 27.2% of workers in Vietnam were trained (**Figure 34**). Since 2017, the Ministry of Education and Training (MOET) has supported a strategy encouraging training institutions to align their courses with business and societal needs and collaborate with enterprises to enhance practical skills. Private schools and institutions, with greater flexibility in developing customized curricula and allocating resources, are well-positioned to meet the growing demand for high-quality training in the competitive skilled labor market. Private institutions account for 28% of total universities in Vietnam (**Figure 35**) and have experienced an 12% CAGR in student enrollment in 2018-22, compared to 6% for public schools (**Figure 36**).

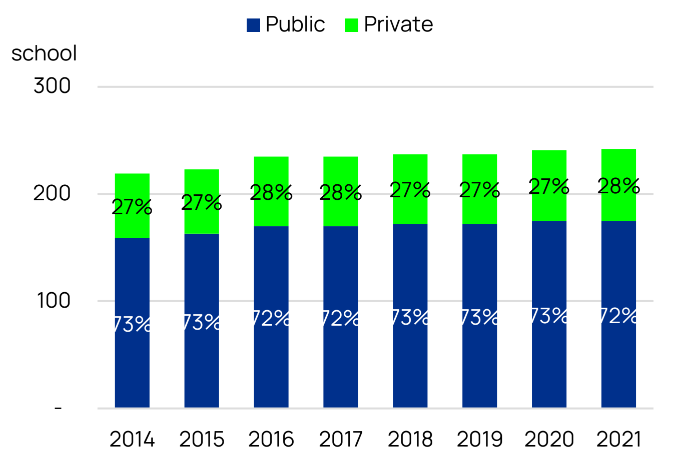
IT human resource development is the primary focus of the Vietnamese Government's Digital Transformation initiative. According to VINASA, around 62% of universities in Vietnam offer IT programs, producing over 55,000 IT graduates annually (**Figure 37**). While public universities like HCMC/Hanoi University of Science and Technology and the National University of Ho Chi Minh City dominate the market, private institutions such as FPT University and Duy Tan University are also contributing significantly to IT training. However, Vietnam still faces a shortfall of 150,000-200,000 IT professionals annually from 2024 to 2026 (**Figure 27**). In August 2024, Prime Minister Pham Minh Chinh signed **Directive No. 83/CĐ-TTg**, instructing MOET to encourage higher education institutions to establish specialized units focused on semiconductor technology, artificial intelligence, and cloud computing. This initiative is expected to benefit corporations involved in IT training, including CMC University and FPT University.

Figure 34: 2023 trained workers[1] by education level, as % of total workers



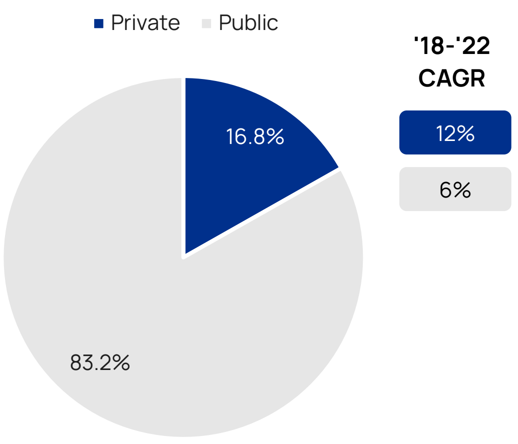
Source: GSO, Vietcap. [1] workers 15 years old and above.

Figure 35: Number of universities and colleges in Vietnam



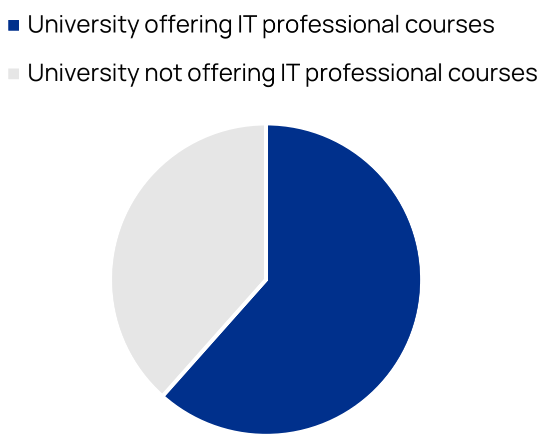
Source: MOET, Vietcap

Figure 36: Number of students in higher education by private or public institution



Source: MOET, Vietcap

Figure 37: Approximately 62% of current universities in Vietnam offer IT professional courses in addition to other subjects



Source: VINASA, Vietcap

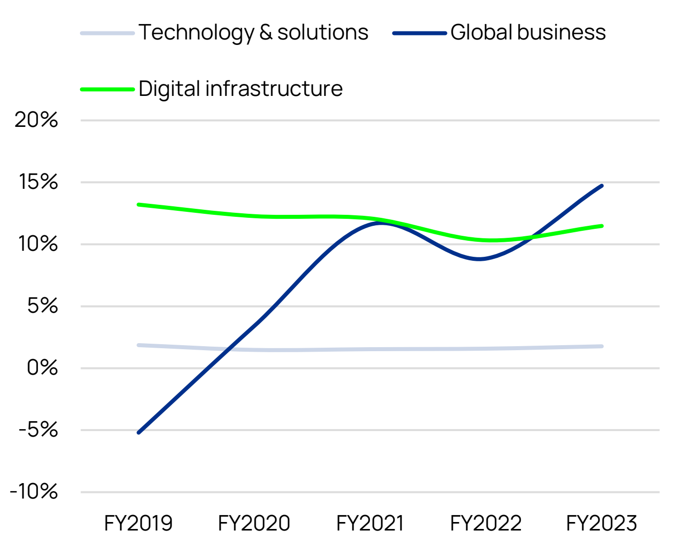
Historical Financial Performance

Revenue advanced at an 11% CAGR during the past five years, which was mainly led by robust growth in global business/digital infrastructure, with respective CAGRs of 50%/12% over FY2019-23 (**Figure 6**). While accounting for the largest portion of revenue mix in FY2019-23 at an average of 54%, the technology & solutions business posted relatively flat growth during the period with a 2% CAGR.

PBT had a strong 16% FY2019-23 CAGR driven by increasing profitability of global business (Figure 38): Global business widened its PBT margin to 14.7% by FY2023 from 3.4% in FY2020 as (1) CMG continued enhancing its presence in global markets and (2) there was solid global DX spending among businesses of all sizes, per IT consulting firm Gartner. Additionally, as discussed on **page 8**, technology & solutions, CMG's largest revenue contributor, mainly derives its sales from low-value system integration and ICT device leasing (accounting for roughly 74% of technology & solutions revenue), and the PBT margin of this segment averaged 1.6% in FY2019-23. Additionally, the digital infrastructure business's profit margin squeeze in FY2022-23 was primarily driven by the depreciation costs of the CMC Tan Thuan data center, which began operations in FY2022.

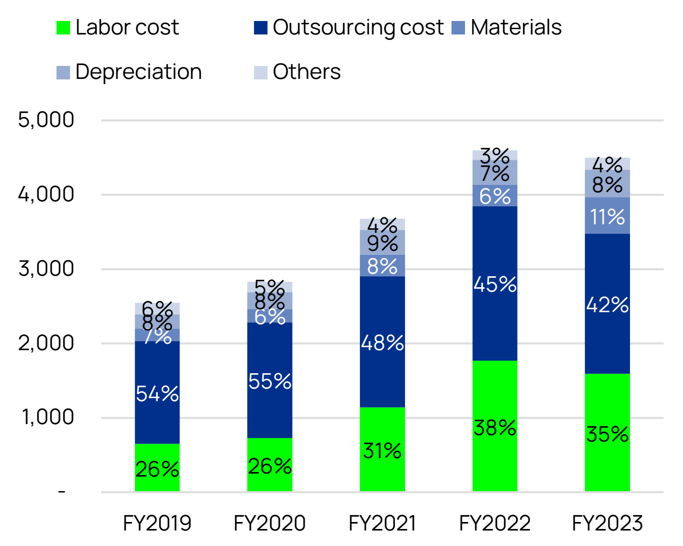
Operational expenditures, particularly outsourcing and labor costs, increased at a CAGR of 15% from FY2019 to FY2023, partially offsetting CMG's profitability expansion (Figure 39). Approximately 80% of CMG's operational expenses stem from (1) labor costs, which averaged 31% of total expenses and grew at a 25% CAGR from FY2019 to FY2023, and (2) outsourcing costs, averaging 49% of total expenses during the same period. CMG's total labor force increased 18% YoY in FY2022 before dropping 14% YoY in FY2023 due to economic headwinds in Vietnam. We believe CMG's focus on expanding global business and digital infrastructure was implied in a gradual shift to labor providing direct services (mainly IT employees) from sales forces (**Figure 40**), together with an improvement in gross profit per employee by 12% YoY in FY2023 per our estimate (**Figure 41**). On the other hand, outsourcing costs are associated with the costs for servers and data infrastructure. As CMG's tech business continued to expand offshore and move up the value chain to deliver high value work such as DX services, it requires stronger computing resources, increasing the costs to outsource infrastructure. CMG's outsourcing costs grew at a 23% CAGR during FY2019-22 before declining to 9% YoY in FY2023, which we believe was due to its efficiency in utilizing its data center infrastructure.

Figure 38: PBT margin by segment, %



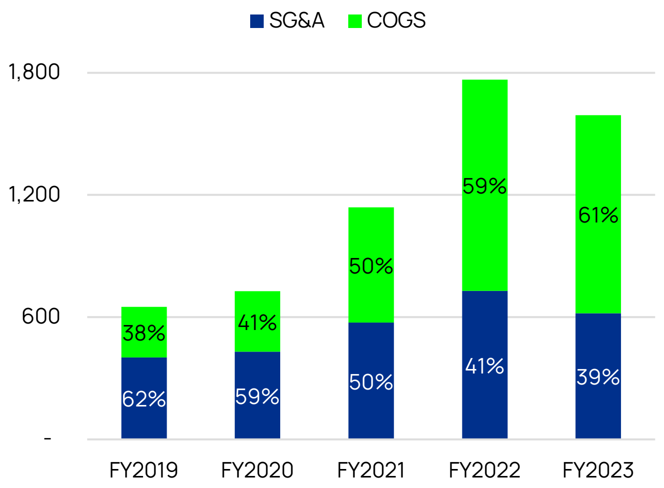
Source: CMG, Vietcap

Figure 39: Operational cost structure of CMG, VND bn



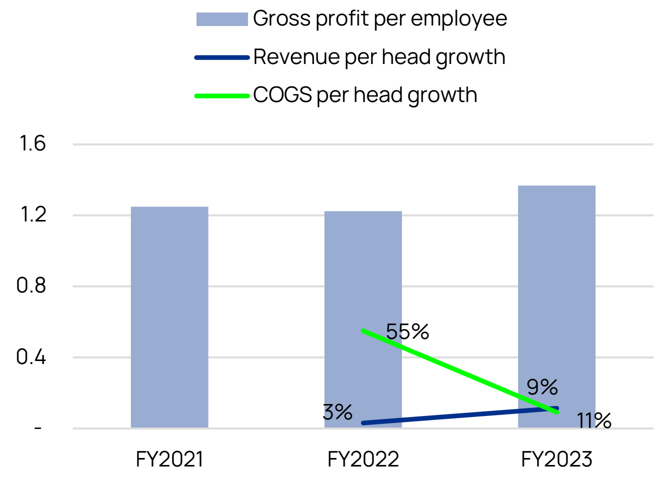
Source: CMG, Vietcap

Figure 40: Labor cost breakdown, VND bn



Source: CMG, Vietcap

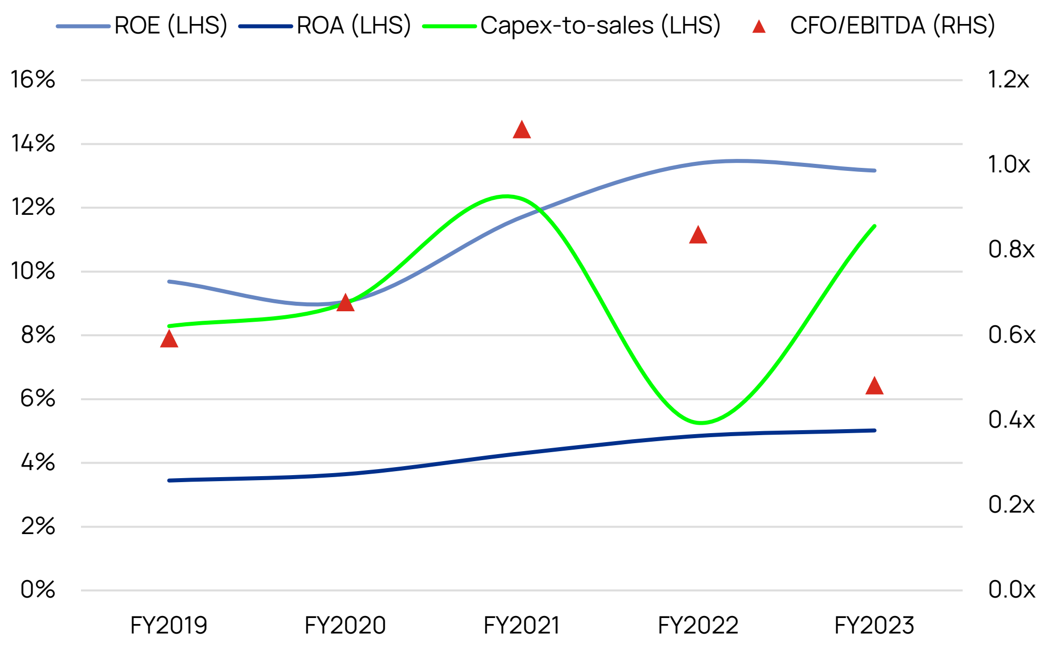
Figure 41: Gross profit per employee, VND bn



Source: CMG, Vietcap

Strong operating cash flow; improving ROE and ROA despite aggressive capex investment (Figure 42). CMG enjoyed a healthy cash flow from operating activities with an average CFO/EBITDA of 0.7x in FY2019-23. In addition, although capex-to-sales remained high at an average 9.3% in FY2019-23, we observed gradual improvements in ROE and ROA during the period, indicating the company's effective resource management to fund its growth strategy.

Figure 42: ROE, ROA, capex-to-sales (%), CFO/EBITDA (x)



Source: CMG, Vietcap

AGM 2024 recap: Management looks for SHTP 2 data center fundraising

We attended CMG's FY2024 AGM on July 25, 2024, in Hanoi. Key highlights of the meeting are as follows.

The plan for purchasing Nvidia innovative chipsets seems to be delayed. In May 2024, CMG announced its plan to become Nvidia's cloud partner and purchase 1,000 Nvidia GH200 chipsets with expected capex of USD250mn. The company is confident in becoming Nvidia's Cloud partner, but currently has not had further updates on the project. With the current heavy-capex data center project pipeline, we think the purchase of Nvidia's chipsets and cloud platform could be delayed until the company finishes its CMC SHTP 2 hyperscale data center.

The CMC SHTP 2 hyperscale data center project is in the early stage of fundraising. CMG proposed the project of Data Center Hyperscale, located in Saigon Hi-Tech Park (SHTP) in HCMC with a designed power capacity of 30MW and land area of 30,203 m2. Tax incentives of 10%/year for the first 15 years of generating revenue and a 50% tax reduction for the next 9 years; exemption of total land leasing fees for the entire lease term. Capex is estimated to be VND7.7tn (USD307mn) with 20% funded by internal equity and 80% funded by other mobilized capital. The project has an expected IRR of 17% and a payback period of 14 years. The project is expected to be implemented in four phases in 2025-2029. CMG stated that CMC SHTP 2 is highly likely to be approved for land use by the management board of SHTP and HCMC's authorities. The company has been conducting bidding for further progress of fundraising for this project, with more than 20 investors who are interested in investing.

Education business expansion to continue in 2024: CMC University commenced operations in FY2022 and recruited ~1,000 students in the school year 2023/24 (+174% YoY new enrollment growth); currently, the school has 1,300 full-time students. The company plans to recruit 1,300-1,500 students per year and will start construction of CMC University Tay Mo (Hanoi) campus in 2024 and has committed to apply AI technology to CMC University's training program – which the company calls its "AI University" model.

Figure 43: Company's AGM 2024 guidance

VND bn	FY2023A	FY2024G	YoY	FY2023A/ FY2023G
Net revenue	**7,342**	**8,824**	**20.2%**	**83%**
Technology & solutions	3,357	4,159	23.9%	79%
Global business	1,270	1,684	32.6%	83%
Digital infrastructure	2,956	3,544	19.9%	87%
Education & research	35	74	111.2%	16%
Others	-276	-638	N.M.	93%
EBITDA	**914**	**1,095**	**19.8%**	**113%**
PBT	**461**	**481**	**4.3%**	**100%**
Technology & solutions	59	89	50.3%	86%
Global business	187	184	-1.5%	92%
Digital infrastructure	339	360	6.1%	102%
Education & research	-46	-77	68.4%	65%
Others	-79	-76	N.M.	110%

Source: CMG, Vietcap

FY2023-26 Outlook: We project NPAT-MI to achieve 21% CAGR led by global business and digital infrastructure

Figure 44: Vietcap's FY2024-26 forecasts for CMG

VND bn	FY2023	FY2024F	FY2025F	FY2026F	FY23-26 CAGR	Vietcap's assumptions
Net revenue	**7,342**	**8,102**	**9,171**	**10,394**	**12%**	
Technology & solutions	3,357	3,551	3,901	4,289	9%	* We project a 9% FY2023-26F CAGR which is mainly driven by the company's focus on DX services in the long term. We project DX/CX to account for 29% of the total of technology & solutions revenue in FY2026F vs 26% in FY2023.
Global business	1,270	1,464	1,779	2,203	20%	* We project CMG's global business revenue to grow 15% YoY in FY2024F and continue to post strong results with a CAGR of 20% in FY2023-26F, with Korea and Japan as the top drivers of this segment, fueled by (1) robust global DX spending and (2) CMG continuing to take bigger projects and improve its profit per employee in the medium term.
Digital infrastructure	2,956	3,254	3,575	3,922	10%	* Data centers: We project this segment to grow at a 17% FY2023-26F CAGR, including 19%/17%/16% YoY growth in FY24F/25F/26F, respectively, mainly driven by higher utilization of current data centers. * Telecom services: We project this business to boast an 11% CAGR in FY2023-26F, driven by 15%/5% FY2023-26F CAGRs in cloud infrastructure/Internet and lease line services, respectively. We expect cloud services to expand alongside data center growth, and for Internet & lease line services to grow broadly in line with Vietnam's fixed-line broadband revenue CAGR of 5% in 2018-22, per the MIC.
Education & research	35	109	191	257	94%	* We expect new enrollment growth to maintain a robust 46% CAGR in FY2023-26F from FY2023's low base and average tuition fee growth of 5% per year.
Others[1]	-276	-276	-276	-276	N.M.	
PBT	**461**	**578**	**712**	**865**	**23%**	
Technology & solutions	59	66	75	87	13%	* Improvement in PBT margin to be driven by the shift to high value DX/CX services.
Global business	187	217	268	335	21%	
Digital infrastructure	339	412	482	557	18%	* We expect the PBT margin to improve in FY2024F due to a smaller loss from CMC Tan Thuan data center in FY2024F-25F and become profitable from FY2026F.
Education & research	-46	-31	-14	-1	N.M.	* Widening profit contribution of the education business to offset for losses in investment in startups, tech research, and other activities.
Others[1]	-79	-87	-99	-112	12%	
NPAT-MI	**337**	**402**	**491**	**596**	**21%**	
NPAT-MI adj[2]	**287**	**343**	**419**	**508**	**21%**	
PBT margin	**6.3%**	**7.1%**	**7.8%**	**8.3%**		
Technology & solutions	1.8%	1.9%	1.9%	2.0%		
Global business	14.7%	14.9%	15.0%	15.2%		
Digital infrastructure	11.5%	12.7%	13.5%	14.2%		
NPM, adj[2]	**3.9%**	**4.2%**	**4.6%**	**4.9%**		

Source: CMG, Vietcap's forecasts;[1] inter-eliminations, investment, and provision for investment in startups and new projects ;[2] adjusted for BWF and tech funds which usually account for 15% of annual NPAT-MI.

Valuation

We adopt a Sum-of-the-Parts (SoTP) approach to value CMG due to the company's diversified business structure that reaches across sectors. We use the trading multiples analysis method to value each sector of CMG over the medium term, as we believe this approach is suitable given the company's early growth stage in the rapidly expanding technology industry and its fluctuating free cash flow due to high capital expenditures. We value technology & solutions, global business, and digital infrastructure using a 50%-50% combination of peer median five-year average TTM P/E and TTM EV/EBITDA, while we value education using a 50%-50% weighting of the peer median five-year average TTM P/S and TTM EV/S. As there are no close peers for each of CMG's divisions in Vietnam except for FPT Telecom, we have chosen Asian regional peers in the three industries for comprehensive comparison. We believe the competitors we have selected are comparable based on their business models and market capitalization (**Figure 50**).

* **Global business**: We assign a 20% discount to IT service peer multiples and use a P/E and EV/EBITDA target of 23.3x/14.8x, respectively. We believe that it would take CMG's global IT service segment several years to keep pace with its main peers because Indian IT vendors have long been the dominant player in global IT outsourcing and CMG's productivity per employee is far behind Vietnam's leading player FPT.

* **Technology & solutions:** We set target P/E and EV/EBITDA multiples of 16.3x and 10.4x, respectively, reflecting a 30% discount to global business target multiples. This discount is attributed to (1) a significant contribution from low value-added system integration services and (2) a slower revenue growth rate compared to the global business segment.

* **Digital infrastructure**: We assign target P/E and EV/EBITDA multiples of 21.5x and 15.6x, respectively, in line with telecom services and data center peers. This reflects our belief in Vietnam's strong growth prospects in the data center and cloud computing industry, as well as CMG's long-term focus on hyperscale data center development in the country.

* **Education**: We believe target P/S and EV/S multiples of 3.9x and 3.5x, similar to those of peers, are justifiable due to the sector's fast growth and predictable cash flow.

Figure 45: Valuation summary

Valuation method	Weighting	Fair prices (VND/share)	Contribution (VND/share)
Target P/E	50%	55,700	27,850
Target EV/EBITDA	50%	61,000	30,500
Fair price (VND/share)			**58,400**

Source: Vietcap

Figure 46: P/E valuation of CMG

VND bn	Multiple method	FY2025F NPAT	CMG's ownership	Target multiples	Equity value[2]
Technology & solutions	P/E	60	100%	16.3x	839
Global business	P/E	241	100%	23.3x	4,779
Digital infrastructure	P/E	424	55%	21.5x	4,229
Education	P/S	191[1]	100%	3.9x	745
Target equity value					**10,601**
Share count (mn)					190.4
Fair price (VND/share)					**55,700**
2024F/25F P/E at FP					26.4x/21.6x
2024F/25F EV/EBITDA at FP					9.4x/8.9x

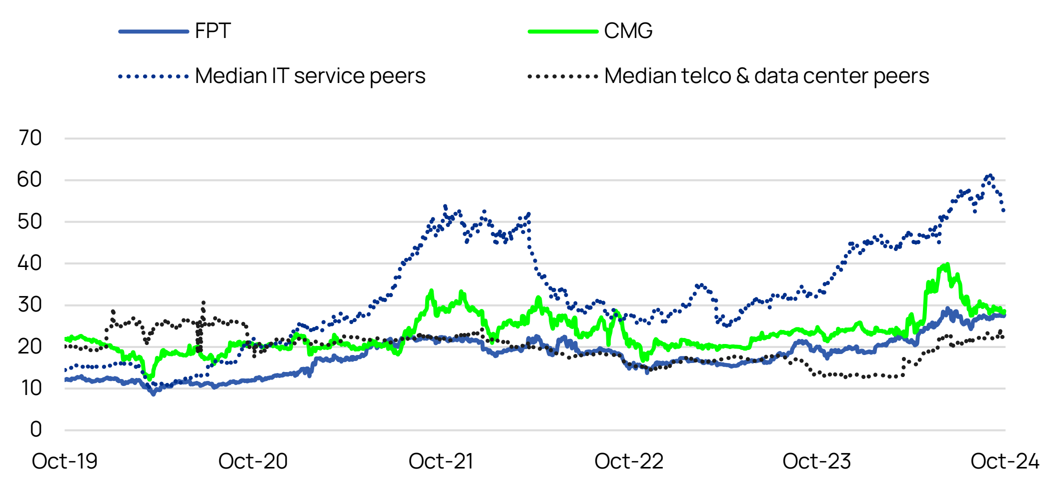
Source: Vietcap; [1]FY2025F sales; [2]adjusted for BWF & tech fund that usually accounts for 15% of NPAT-MI.

Figure 47: EV/EBITDA valuation of CMG

VND bn	Multiple method	FY2025F EBITDA	CMG's ownership	Target multiples	Target value
Technology & solutions	EV/EBITDA	101	100%	10.4x	1,049
Global business	EV/EBITDA	321	100%	14.8x	4,752
Digital infrastructure	EV/EBITDA	687	55%	15.6x	5,837
Education	EV/S	191[1]	100%	3.5x	678
Total EV					12,316
Plus, net cash					9
Net, minority interests					720
Target equity value					**11,604**
Share count (mn)					190.4
Fair price (VND/share)					**61,000**
2024F/25F P/E at FP					28.9x/23.6x
2024F/25F EV/EBITDA at FP					10.9x/10.4x

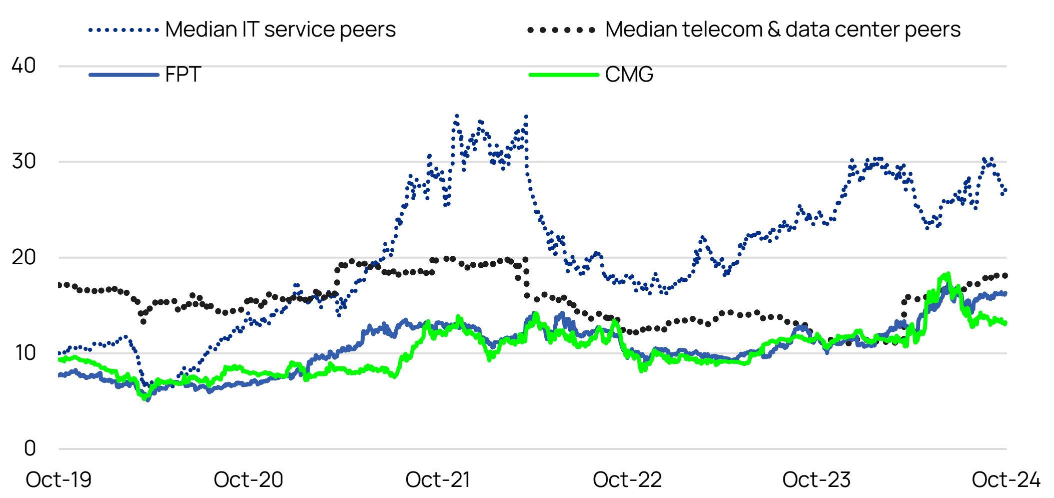
Source: Vietcap; [1]FY2025F sales

Figure 48: TTM P/E (x) of CMG, FPT, and comparable peer groups



Source: Bloomberg, Vietcap (Data as of October 21, 2024)

Figure 49: TTM EV/EBITDA (x) of CMG, FPT, and comparable peer groups



Source: Bloomberg, Vietcap (Data as of October 21, 2024)

Figure 50: Comparable peers

Company	Country	Mkt cap (USD mn)	EBITDA margin (%)	5y avg EV/S (x)	5y avg EV/EBITDA (x)	5y avg P/E (x)	Net D/E (x)	5y avg ROE (%)	5y avg ROA (%)	LQ P/B (x)
IT services										
Tech Mahindra	India	19,419	9.6%	2.0x	13.4x	23.7x	-0.2x	17.2%	10.4%	5.5x
Wipro	India	33,406	18.9%	2.7x	32.2x	21.1x	-0.3x	17.4%	11.4%	3.6x
KPIT	India	5,784	20.4%	8.2x	27.5x	56.8x	-0.3x	21.3%	11.8%	22.4x
Persistent	India	10,423	17.1%	6.2x	17.5x	43.4x	-0.2x	20.8%	14.2%	17.5x
Sonata Software	India	2,020	8.5%	2.3x	17.5x	29.2x	-0.2x	33.5%	13.5%	12.0x
L&T Tech	India	6,629	19.9%	5.0x	24.5x	37.5x	-0.4x	26.5%	17.1%	10.5x
Mphasis	India	6,607	18.2%	3.3x	18.5x	28.2x	-0.1x	20.6%	13.8%	6.3x
Mean		**12,041**	**16.1%**	**4.2x**	**21.6x**	**34.3x**	**-0.2x**	**22.5%**	**13.2%**	**11.1x**
Median		**6,629**	**18.2%**	**3.3x**	**18.5x**	**29.2x**	**-0.2x**	**20.8%**	**13.5%**	**10.5x**
Telecom services & data centers										
Globe Telecom	Philippines	6,122	48.9%	3.5x	6.5x	12.5x	2.0x	23.1%	6.0%	2.2x
Advanced Info	Thailand	24,947	49.4%	4.1x	8.3x	21.4x	2.5x	37.1%	8.4%	8.9x
Keppel DC REIT	Singapore	2,993	75.8%	14.8x	23.9x	21.5x	0.6x	9.0%	5.4%	1.7x
Singapore Telecom	Singapore	40,009	13.7%	3.5x	14.3x	33.7x	0.3x	4.9%	2.7%	2.1x
Sunevision Holdings	Hongkong	1,129	69.2%	8.3x	16.8x	28.3x	3.1x	18.7%	4.8%	1.1x
GDS Holdings Ltd	China	4,145	14.7%	5.5x	34.9x	N/A	2.0x	-8.7%	-2.6%	N/A
FPT Telecom JSC	Vietnam	1,781	25.3%	1.5x	6.2x	13.6x	-0.3x	28.6%	10.9%	5.1x
NextDC Ltd	Australia	7,575	56.9%	26.7x	40.0x	N/A	0.1x	-1.4%	-0.8%	3.0x
Mean		**11,088**	**44.2%**	**8.5x**	**18.9x**	**21.9x**	**1.3x**	**13.9%**	**4.4%**	**3.8x**
Median		**5,133**	**49.2%**	**4.8x**	**15.6x**	**21.5x**	**1.3x**	**13.9%**	**5.1%**	**2.6x**
Education										
China Education	China	1,681	49.0%	6.9x	7.3x	23.4x	0.2x	11.3%	5.1%	0.7x
Tianli International	China	1,171	30.6%	6.3x	N/A	N/A	0.1x	N/A	N/A	3.7x
XueDa XiaMen	China	979	21.6%	1.9x	N/A	N/A	0.7x	-20.9%	-1.7%	8.5x
China East Education	China	749	26.4%	3.5x	5.2x	49.8x	-0.3x	9.0%	5.2%	1.0x
Shanghai Xinnanyang	China	563	-7.3%	2.3x	N/A	N/A	-1.3x	-19.8%	-3.9%	N.M.
Mean		**1,029**	**24.0%**	**4.2x**	**6.3x**	**36.6x**	**-0.1x**	**-5.1%**	**1.2%**	**3.5x**
Median		**979**	**26.4%**	**3.5x**	**6.3x**	**36.6x**	**0.1x**	**-5.4%**	**1.7%**	**2.4x**
CMG	**Vietnam**	**401**	**16.0%**	**1.7x**	**16.6x**	**23.8x**	**0.0x**	**11.4%**	**4.3%**	**3.7x**

Source: Bloomberg, Vietcap (Data as of October 21, 2024)

Investment Risks

Failure to scale up engineer pool: Our key investment thesis for CMG is the company's growing capability of delivering IT service in global markets. The current IT labor shortage in Vietnam poses a risk for CMG to expand its labor pool quickly and employ quality engineers with sufficient skillsets to cater to robust demand of DX across markets. To mitigate this risk, CMG has been investing in the higher education business to train students to learn up-to-date skills that meet the company's demand for IT labor.

Failure to keep pace with changes in technological cycles: The technology landscape is evolving at an unprecedented pace. Emerging technologies such as artificial intelligence (AI), machine learning (ML), cloud computing, and blockchain are reshaping client demands. CMG faces the risk of losing out on new deals to competitors that are quicker to adapt to, and integrate with, these trends. CMG appropriates its earnings for the technology development fund every year to keep up R&D activities in the company.

Weaker-than-expected global IT spending: The global economy directly influences IT spending, which has shown volatility in recent years due to various geopolitical and economic uncertainties. A sharper-than-expected downturn in IT budgets across key markets could hinder growth and profitability for CMG. As such, the company has been expanding its market to different regions to minimize exposure to geo-economic risks.

Intensifying competition in data center industry: As demand for cloud services and data storage rises, both new entrants—particularly foreign hyper-scalers—and existing providers are competing aggressively. The need to build and maintain cutting-edge infrastructure while keeping prices competitive may pressure CMG's profit margins. To address upcoming hyperscale projects, CMG is seeking strategic investors to mitigate concentration risk, enabling the development of large-scale projects and sustained growth in this segment.

Financial Statements

P&L (VND bn)	FY2023	FY2024F	FY2025F	FY2026F
Revenue	**7,342**	**8,102**	**9,171**	**10,394**
Cost of sales	-5,967	-6,565	-7,408	-8,370
Gross Profit	**1,375**	**1,537**	**1,763**	**2,024**
Sales & Marketing exp.	-491	-418	-395	-373
General & Admin exp.	-486	-612	-716	-837
Operating Profit	**398**	**507**	**652**	**813**
Financial Income	119	120	109	109
Financial Expenses	-102	-98	-100	-109
- o/w Interest Expense	-83	-76	-75	-82
Associates	41	43	45	47
Net Other Income/(Loss)	5	5	5	5
Profit Before Tax	**461**	**578**	**712**	**865**
Income Tax	-59	-81	-98	-118
NPAT Before MI	**402**	**496**	**614**	**748**
Minority Interest	-65	-95	-122	-152
NPAT-MI, Reported	**337**	**402**	**491**	**596**
NPAT-MI, Adjusted[1]	**287**	**343**	**419**	**508**
EBITDA	1,175	1,129	1,184	1,323
EPS reported, VND	1,511	2,110	2,580	3,128
EPS adjusted[1], VND	1,507	1,800	2,201	2,669
DPS reported, VND	474	474	474	474
DPS/EPS (%)	31%	26%	22%	18%

RATIOS	FY2023	FY2024F	FY2025F	FY2026F
Growth YoY				
Revenue growth	-4.2%	10.4%	13.2%	13.3%
Op profit (EBIT) growth	0.5%	27.3%	28.6%	24.8%
NPAT-MI growth	14.7%	25.3%	23.2%	21.5%
EPS growth, Adjusted	12.2%	19.4%	22.3%	21.2%
Profitability				
Gross Profit Margin	6.3%	7.1%	7.8%	8.3%
Op. Profit, (EBIT) Margin	5.4%	6.3%	7.1%	7.8%
EBITDA Margin	16.0%	13.9%	12.9%	12.7%
NPAT-MI Margin	4.6%	5.0%	5.4%	5.7%
ROE	13.2%	14.4%	15.6%	16.5%
ROA	5.0%	5.6%	6.2%	6.5%
Efficiency				
Days Inventory On Hand	8.1	6.8	6.8	6.8
Days Accts, Receivable	71.7	64.9	64.6	60.7
Days Accts, Payable	47.9	46.5	49.0	50.8
Cash Conversion Days	32.0	25.2	22.4	16.7
Liquidity				
Current Ratio x	1.1	1.1	1.0	0.9
Quick Ratio x	0.6	0.6	0.5	0.4
Cash Ratio x	0.6	0.5	0.4	0.4
Debt / Assets x	0.2	0.2	0.2	0.2
Debt / Capital x	0.4	0.4	0.3	0.4
Net Debt / Equity x	-0.0	-0.1	0.1	0.2
Interest Coverage x	4.8	6.6	8.6	9.9

B/S (VND bn)	FY2023	FY2024F	FY2025F	FY2026F
Cash & Equivalents	511	539	369	399
ST Investment	1,112	1,112	1,112	1,112
Accounts Receivable	1,326	1,557	1,687	1,770
Inventories	133	122	137	155
Other Current assets	91	81	92	104
Total Current Assets	**3,173**	**3,412**	**3,398**	**3,541**
Fixed Assets, Gross	5,128	5,995	7,652	9,351
- Depreciation	-2,303	-2,851	-3,346	-3,846
Fixed Assets, Net	2,825	3,144	4,306	5,505
LT investments	95	95	95	95
LT assets, other	760	760	760	760
Total LT Assets	**3,681**	**4,000**	**5,162**	**6,360**
Total Assets	**6,854**	**7,412**	**8,560**	**9,901**
Accounts Payable	759	915	1,073	1,258
Accrued expenses	434	434	434	434
ST Debt	899	959	1,042	1,132
Other ST Liabilities	682	753	852	966
Total Current Liabilities	**2,774**	**3,061**	**3,401**	**3,790**
LT Debt	667	532	817	1,112
Other LT liabilities	2,843	3,129	3,469	3,858
Total Liabilities	**3,510**	**3,661**	**4,286**	**4,970**
Paid in capital	1,904	1,904	1,904	1,904
Share premium	27	27	27	27
Treasury shares	0	0	0	0
Retained earnings	342	654	1,055	1,560
Other equity	365	365	365	365
Minority interest	706	800	923	1,075
Total equity	**3,344**	**3,750**	**4,273**	**4,931**
Liabilities & equity	**6,854**	**7,412**	**8,560**	**9,901**
Y/E shares out, mn	190	190	190	190

CASH FLOW (VND bn)	FY2023	FY2024F	FY2025F	FY2026F
Beginning Cash Balance	**371**	**511**	**539**	**369**
Net Income	337	402	491	596
Dep, & Amortization	677	548	495	501
Δ in Working Capital	203	17	101	186
Other Adjustments	-649	95	122	152
Cash from Operations	**567**	**1,061**	**1,209**	**1,435**
Capital Expenditures, Net	-839	-867	-1,657	-1,699
Investments, Net	255	0	0	0
Cash from Investments	**-584**	**-867**	**-1,657**	**-1,699**
Dividends Paid	-128	-90	-90	-90
Δ in Share Capital	21	0	0	0
Δ in ST Debt	17	60	82	90
Δ in LT Debt	224	-135	286	294
Other financing C/F	-402	316	-443	-17
Cash from Financing	**-268**	**150**	**-166**	**277**
Net Change in Cash	**140**	**29**	**-170**	**30**
Ending Cash Balance	**511**	**539**	**369**	**399**

Source: CMG, Vietcap; 'FY' denotes 'financial year'; CMG's financial year is the 12 months ending March 31, i.e., FY2023 runs from April 1, 2023, to March 31, 2024; [1]adjusted for BWF and tech fund which usually accounts for 15% of annual NPAT-MI.

Glossary

Terminology	Description
5G network service	The fifth generation of mobile Internet connectivity offers faster speeds, more reliable connections, and 100x more bandwidth capacity than 4G. This network operates mainly on the cloud, allowing for separate wireless networks on the cloud, enabling users to have their own personalized network.
Artificial Intelligence (AI)/Machine Learning	Artificial intelligence is the ability of a computer program to think and learn. The emergence of AI has enabled the rise of self-driving cars, smart homes, advanced search algorithms, and smart digital assistants.
Big data	A combination of structured, semi-structured, and unstructured data that organizations collect, analyze, and mine for information and insights.
Cloud computing	The practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than using a local server or a personal computer, is becoming more common. More companies are moving to this platform for security, convenience, and cost savings. Data centers provide the necessary infrastructure and support for cloud services, allowing users to access and use applications and data from anywhere with an Internet connection.
Data center redundancy	A system design where a component is duplicated so that in the event of any power outage, equipment failure, or any unexpected breakage, the IT equipment will not be affected in a potentially dangerous way.
Downtime	Data downtime refers to the period during which an organization's access to critical data is disrupted or unavailable.
Fiber network	Fiberoptic communication, a method of transmitting information from one place to another by sending pulses of infrared or visible light through optic fiber.
High performance computing	The practice of aggregating computing resources to gain performance greater than that of a single workstation, server, or computer.
Internet of Things (IoT)	Smart devices that are all connected and communicate with each other via the Internet are rising in demand due to the strategic data that they provide.
Mbps	Megabits per second, a measure of Internet speed in which data or content travels from the World Wide Web to your home computer, tablet, or smartphone.
Parameters in AI	The variables that AI models learn during training and which define the transformation between the model's input and output.
Power usage effectiveness	The standard efficiency metric for power consumption in data centers, calculated by dividing the total power the facility uses to the IT equipment energy used in a data center. For example, PUE of 1.5x means per 1 kWh powered IT equipment, there is an additional 0.5kWh power used for cooling and other supporting facilities.
Uptime Institute	Uptime Institute is the Global Digital Infrastructure Authority. The company has established industry-leading benchmarks for data center performance, resilience, sustainability, and efficiency, which provide customers assurance that their digital infrastructure can perform across a wide array of operating conditions at a level consistent with their business needs. Uptime's Tier Standard is the IT industry's most trusted and adopted global standard for the design, construction, and operation of data centers – the backbone of the digital economy.

Appendix

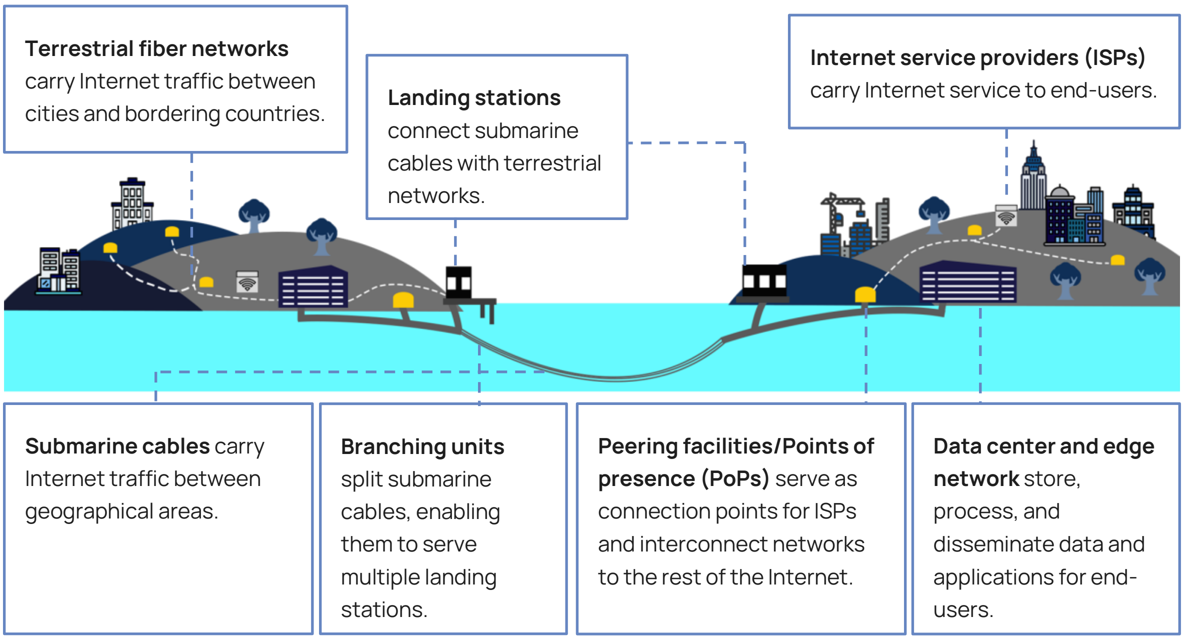
Appendix A. Business models and value chain in technology and telecom sector

The first-mile connectivity – submarine cables: Submarine cables transfer Internet worldwide and are interconnected to backhaul networks and access networks within countries.

The middle-mile connectivity – backhaul networks: Backhaul networks transfer data from submarine cables through landing stations and (1) link it to high-capacity terrestrial fiber networks across countries and cities, and (2) peering facilities (Points of Presence – PoPs) connecting with data centers. Due to explosive demand for data storage and processing, as well as the growing applications of digital technologies, specifically cloud computing, there has been a transformation in data center positioning. This shift is from privately owned, closely managed on-premises facilities containing conventional IT infrastructure to remote facilities or networks, usually owned by cloud service providers or telco players. These facilities house virtual IT infrastructure and serve the needs of multiple companies and customers in a shared location. Data centers play an important role in today's digital business world as a key supplier of security measures, advanced networking capabilities, and high-performance computing resources, and sit in the middle of the data value chain.

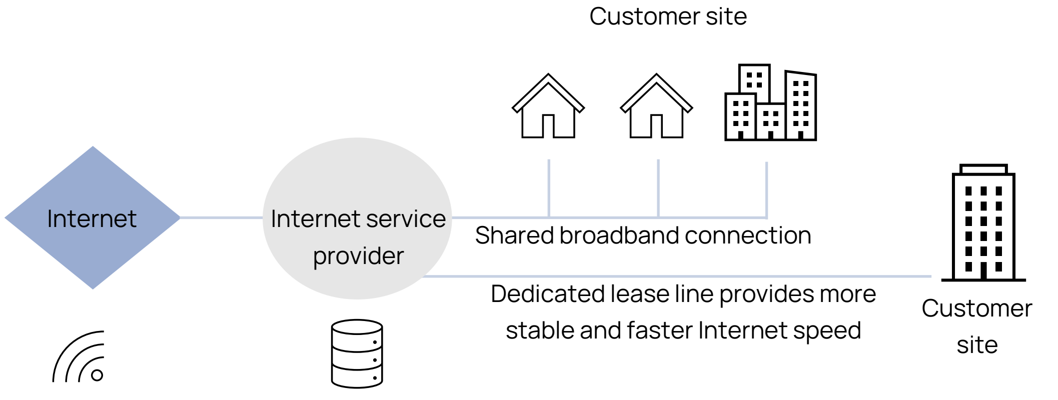
The last-mile connectivity – access networks: Access networks provide the final connection between backhaul networks and end-users, most commonly in the form of mobile and fixed-wireless networks, and fixed-line connections to premises.

Appendix A1: The Internet supply chain



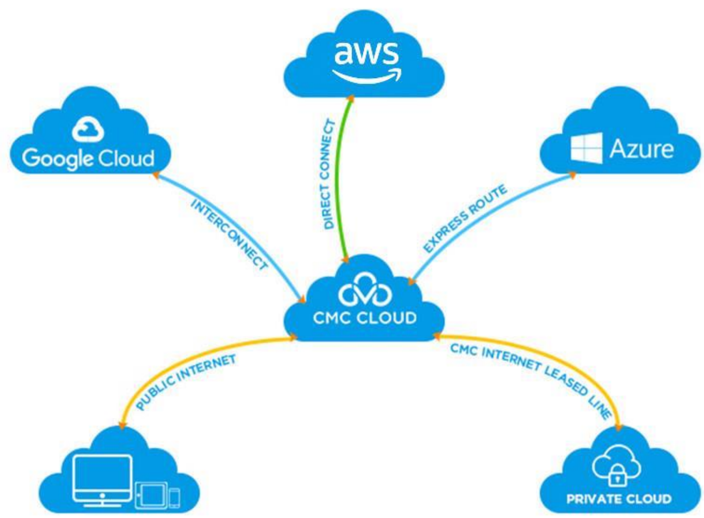
Source: Vietcap compilation

Appendix A2: Internet lease line service to provide direct network access to customer sites



Source: Vietcap compilation

Appendix A3: CMG's cloud service model



Source: Company's website, Vietcap

Appendix B. Education system structure

The Vietnamese national education system is structured into three levels comprised of pre-schooling, 12 years of basic education known as K-12 (primary and secondary levels), and higher education. According to Article 14 of the 2019 Law of Education, the primary level is compulsory for all Vietnamese children.

Appendix B1: Educational system structure in Vietnam, as of 2023

	Level	Age	Descriptions	Degree certificate	Gross enrollment rate YE2022[1]
Preprimary & Primary	Kindergarten	3-5	* Children learn about arithmetic and the alphabet.	* Kindergarten completion certificate	92%
	Primary	6-11	* Mandatory subjects include Vietnamese, mathematics, moral education, physical education, arts, natural and social sciences, history and geography (grades 4-5), information technology (grades 3-5), and foreign languages (grades 3-5).	* Primary school graduation certificate	123%
Secondary	Lower-secondary	12-15	* Admission is generally open to all pupils who complete primary education, except for a few high-quality/for-the-gifted schools that may require entrance exams. Mandatory subjects are like those in primary levels.	* Lower-secondary graduation certificate	97%
	Upper-secondary	16-18	* Admission is examination based. Admission competition is fierce for prestigious for-the-gifted public schools that accept a small number of high-quality students. Mandatory subjects include literature, mathematics, foreign languages, physical education, national security and defense, and history; in addition to 4/9 optional subjects of geography, economics and law, physics, chemistry, biology, information technology, technology, arts, music.	* High school graduation certificate	
Higher education	College University Master's PhD	18+	* Colleges that provide academic training are managed by MOET, while the others are classified as vocational education (supplementary) and are managed by Ministry of Labor-Invalids and Social Affairs (MOLISA). * Entrance exams are required for all students who apply for public universities (except for certain cases). * Standard undergraduate degree is completed in four years (up to six years). Master's generally take two years to complete, and PhDs take four years.	Bachelor's/ Master's/ Doctoral degree	42%
Supplementary		6+	* Supplementary education includes language/test prep programs, tutoring, skills training, vocational education.	Varies based on program	N/A

Source: Law of Education, UNESCO Institute for Statistics (UIS), World Bank, Vietcap ; [1] Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

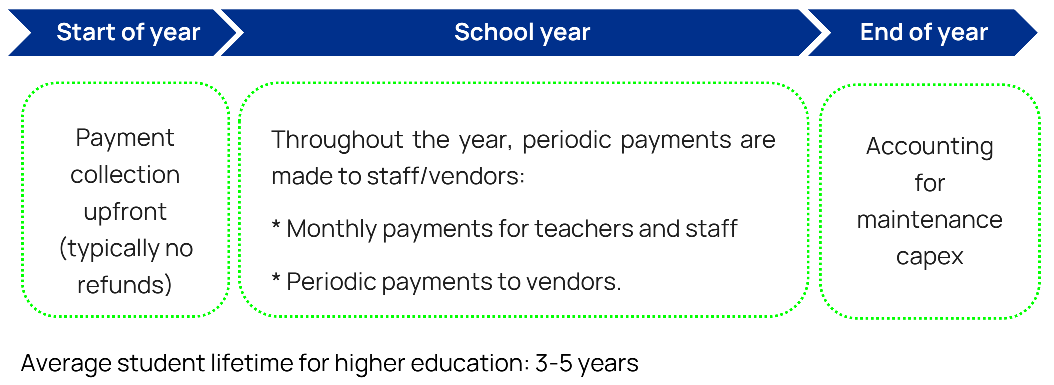
Academic and vocational training in Vietnam is mainly governed by MOET and MOLISA, which sets a high barrier of entry for this market. As presented in Appendix B2, the establishment of an educational center for all levels requires approval from city/provincial People's Committees. Additionally, higher education institutions need further approval from the Prime Minister and MOET. On the other hand, operational licenses for academic curriculums and activities are managed by MOET, while vocational training is governed by MOLISA. Further support to decision makers (i.e., underwriting process) is provided by the Ministry of Finance (MoF) and Ministry of Planning and Investment (MoPI). As such, market players, especially in the private sector, need strong relationships with regulatory bodies to enter, operate, and scale up their businesses.

Appendix B2: Government authorities engage strongly in the establishment and operations of educational institutions

		Prime Minister	MOET	MOF	MOPI	MOLISA	City/Provincial People's Committees
Pre-primary & Primary	* Establishment approval		S				D
	* Operational license provision		D				
Secondary	* Establishment approval		S				D
	* Operational license provision		D				
Higher education	* Establishment approval	D	D	S	S		D
	* Operational license provision		D				
Supplementary	* Establishment approval		S	S	S	S	D
	* Operational license provision		D			D	

Source: Decree No. 46/2017/ND-CP, Decree No. 143/2016/ND-CP, Vietcap. D = Decision maker, S = Support, Vietcap compilation.

Appendix B3: Educational service providers usually have negative working capital requirements and predictable cash-flows



Source: Vietcap compilation

Vietcap Rating System

Stock ratings are set based on projected total shareholder return (TSR), defined as (target price – current price)/current price + dividend yield, and are not related to market performance.

Equity rating key	Definition
BUY	If the projected TSR is 20% or higher
OUTPERFORM	If the projected TSR is between 10% and 20%
MARKET PERFORM	If the projected TSR is between -10% and 10%
UNDERPERFORM	If the projected TSR is between -10% and -20%
SELL	If the projected TSR is -20% or lower
NOT RATED	The company is or may be covered by the Research Department but no rating or target price is assigned either voluntarily or to comply with applicable regulation and/or firm policies in certain circumstances, including when Vietcap is acting in an advisory capacity in a merger or strategic transaction involving the company.
RATING SUSPENDED, COVERAGE TERMINATED	A rating may be suspended, or coverage terminated, if fundamental information is deemed insufficient to determine a target price or investment rating or due to a reallocation of research resources. Any previous investment rating and target price are no longer in effect.

Unless otherwise specified, these performance parameters are set with a 12-month horizon. Movement in share prices may cause a temporary mismatch between the latest published rating and projected TSR for a stock based on its market price and the latest published target price.

Target prices are generally based on the analyst's assessment of the stock's fair value over a 12-month horizon. However, the target price may differ from the analyst's fair value if the analyst believes that the market will not price the stock in line with assessed fair value over the specified time horizon.

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