CGSCIMB InCred Equities

Company Note | Industrial Machinery | India | January 12, 2022

Siemens Ltd

FY21 annual report highlights

- Siemens' automation/digitalisation push will provide medium-term growth opportunities, backed by strong industrial software portfolio built by the parent.
- Cost control measures supported margins, though imports remain high. Liabilities were supported by the Rs2bn held back from the C&S acquisition.
- We reiterate our Hold rating, with a higher TP of Rs2,315.

India

HOLD *(no change)*

Consensus ratings*:	Buy 15 Hold 7 Sell 7
Current price:	Rs2,314
Target price: ▲	Rs2,315
Previous target:	Rs2,200
Up/downside:	0.0%
InCred Research / Consensus:	-2.5%
Reuters:	SIEM.NS
Bloomberg:	SIEM IN
Market cap:	US$11,147m Rs823,920m
Average daily turnover:	US$14.0m Rs1031.3m
Current shares o/s:	356.1m
Free float:	25.0%

Source: Bloomberg

Key changes in this note

- Marginal tweak in FY22-24F PAT

Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	(5.4)	3.4	39.4
Relative (%)	(8.2)	2.9	13.9

Major shareholders	% held
Promoter	75.0
Life Insurance Corporation	6.5

Accelerated push to automation/ digitalisation

FY21 saw heightened interest in digitalisation and automation even from small and medium enterprises. The company also saw higher interest in areas such as waste heat recovery, lift irrigation, power evacuation, e-mobility, decarbonisation, and water management addressing business sustainability. FY21 sales (+31% yoy) was aided by 49%/6%/23% yoy growth in products/ service/ projects (two-year FY19-21 CAGR of 2%/10.5%/-6%) and formed 57%/14%/29% of FY21 sales. Domestic/ exports grew at 35%/20% yoy (two-year CAGR of -2%/9%). A clear shift towards the private sector was seen, with a higher share of product business, digital/software business, and services. Siemens AG (parent) intends to transition parts of its software business from largely upfront revenue recognition towards Software as a Service (SaaS) yielding predictable recurring revenues which could impact short growth/margins. Siemens AG spent >€10bn acquiring software companies over the last 15 years and built a strong industrial software portfolio (list attached). Siemens India's digitalisation level is not high now but could be a medium- to long-term opportunity.

Cost control aided margins; imports remain high

Higher commodity prices and higher traded goods (+81% yoy; forming 30.2% of FY21 sales vs 22%/24% in FY20/FY19) impacted FY21 gross margin (-442bp yoy). Foreign exchange outgo stood at Rs49.8bn (+24% yoy); 38.5% of sales indicating continued higher imports. Net foreign exchange outgo was at 18.6% of FY21 sales vs 11% of sales in FY20. Operating leverage aided EBITDA margin (+122bp yoy) supported by cost control across sub-segments of other expense (-260bp yoy). Cost expenses which saw a high uptick were external software and other IT-related cost (+24% yoy; 1.7% of FY21 sales vs 1.9%/1.1% of sales in FY20/19), packing & forwarding (+95% yoy) and licence fees (+67% yoy; 0.7% of FY21 sales vs 0.6%/0.5% in FY20/19). Net working capital (ex-cash) on days of sales improved to 53 days in FY21 vs 75 in FY19/20. Current liabilities was aided by the Rs2bn held back from the C&S Electric sales consideration of Rs21.6bn for two years.

Reiterate Hold

Increase in private capex and focus on infrastructure should support growth going forward. We reiterate our Hold rating due to higher valuations (47x FY23F P/E) post factoring in strong PAT CAGR of 24% over FY21-24F and growth concerns for its energy segment (48% to FY21 EBIT). We tweak our earnings, roll forward earnings to Mar 2024F and raise our TP to Rs2,315 (42x). Delays in industrial pick-up and margin pressure are downside risks, while better-than-estimated pick-up in order inflows (OI) is an upside risk.

Financial Summary	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
Revenue (Rsm)	96,606	134,226	164,537	189,365	212,763
Operating EBITDA (Rsm)	10,268	15,173	20,757	24,450	27,712
Net Profit (Rsm)	7,927	10,489	14,401	17,372	20,106
Core EPS (Rs)	22.3	29.5	40.5	48.8	56.5
Core EPS Growth	(30.2%)	32.3%	37.3%	20.6%	15.7%
FD Core P/E (x)	103.90	78.52	57.19	47.41	40.96
DPS (Rs)	7.0	7.0	10.0	12.0	14.0
Dividend Yield	0.30%	0.30%	0.43%	0.52%	0.61%
EV/EBITDA (x)	74.65	50.89	36.99	30.91	26.76
P/FCFE (x)	68.82	(72.46)	98.19	50.13	43.00
Net Gearing	(60.2%)	(49.8%)	(49.0%)	(53.4%)	(57.5%)
P/BV (x)	8.68	7.96	7.20	6.46	5.78
ROE	8.6%	10.6%	13.2%	14.4%	14.9%
% Change In Core EPS Estimates			(0.23%)	1.09%	0.31%
InCred Research/Consensus EPS (x)			1.02	1.03	0.98

SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS. PRICED AS AT 11 JAN 2022

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FY21 annual report highlights

Key points from Siemens FY21 annual report

- **Overall outlook**
  - The company has begun to see heightened interest from customers for digitalisation solutions to enable them to reduce their capital expenditure requirements, save cash and increase their productivity. FY21 saw continued growth in demand and interest for digital and automation solutions, which is a combination of pent-up and fresh demand. Cybersecurity, industrial security, building automation, virtual commissioning and remote services gained momentum in FY21. Demand is emerging from not only large corporates but also small and medium enterprises across verticals.
  - The company is also seeing increased interest from customers in such areas as waste heat recovery (WHR), lift irrigation, power evacuation, e-mobility, decarbonisation, water management, battery storage and optimisation – many of which address the sustainability performance.

Segmental highlights

- **Digital Industries**

  FY21 performance: The company is seeing higher customer demand in key verticals such as pharmaceuticals, food and beverage, intralogistics and machine tools. Customer interest is increasing in digital application areas such as virtual commissioning, industrial security, and remote services. Increased customer offtake led to higher revenues, while improved profitability was led by cost control measures and productivity improvement.

  Key orders: The company won orders from several companies for operational technology cybersecurity, utility digitalisation (energy management and KPI dashboard) for a pharmaceutical company, digital transformation consulting for an agribusiness company, computer numerical control solution for an aerospace company's robot-based machining and a device-managed Edge application for an FMCG company.

  Outlook: The global pandemic has accelerated the push towards digitalisation and automation and momentum is expected to continue with an increasing number of small and medium enterprises investing in an integrated digital approach. Among the solutions that have proven benefits for the manufacturing industry are digital twin production, cloud-based digital services, data analytics solutions, remote factory acceptance tests, virtual commissioning as well as industrial security and diagnostics services.

- **ENERGY**

  FY21 performance: Business remained resilient in FY21 mainly due to the generation and service business. Significant demand was witnessed for services such as modernisation, EPC integration and data analytics.

  Key orders include orders from Cochin Shipyard Limited to implement advanced marine solutions for a fleet of 23 boats equipped with electric propulsion and battery integrated, Static Synchronous Compensator (STATCOM) order from Power Grid Corporation of India Limited (PGCIL) in Rajasthan, and a turbine modernisation order in the oil and gas segment.

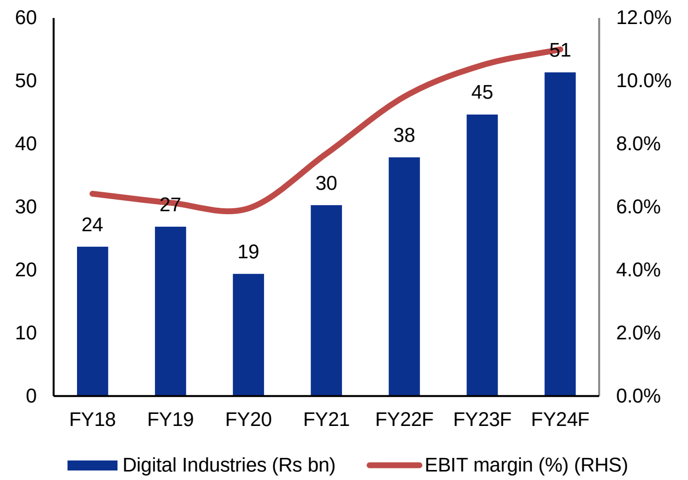
  Outlook: The Indian government’s focus on ‘Power for all’ will require capacity expansion, grid stability (solutions like STATCOM) as well as new technologies around digitalisation, decentralisation and decarbonisation. Customers such as cement, steel, pharmaceuticals, fertiliser and chemicals are considering solutions such as waste heat recovery to improve efficiency and reduce carbon footprint.

- **SMART INFRASTRUCTURE**
  The key segment highlights include the C&S Electric acquisition (bolstering Siemens' portfolio along with an exports opportunity to competitive international markets), tying up with Tata Power Delhi Distribution Limited for the deployment of Smart Metering Technology for over two lakh smart metres, bagging Data Centre projects across the government and private sectors, signing an MoU with Switch Mobility Automotive Limited to jointly address the needs of electric commercial vehicle customers and executing e-mobility projects in India.
  Outlook: Urbanisation, building new infrastructure (led by National infrastructure pipeline [NIP]), production-linked incentives (PLI) will drive demand for industrial infrastructure. Also, key growth areas like data centres, pharmaceuticals, transportation and healthcare are expected to drive segment growth. The company expects growth in demand for technologies such as integrated building management systems, energy optimisation, smart grid, e-mobility, smart offices, sustainability services in tune with the new infrastructure, and modernisation of existing infrastructure.

- **MOBILITY**
  Outlook: The Indian Railways' focus on speed upgradation, safety, better passenger experience, cost, sustainability driving an enhanced rate of electrification, modern signalling, modernisation of rolling stocks as well as enhancing capacity and throughput are good for the segment. Traction continues in electrification and signalling, and metro rail projects, which the company expects to fuel growth in the segment.
  Key orders include electrification of more than 1,000km of Mainline Railways, signalling systems for the Dedicated Freight Corridor (DFC) and contracts for maintenance of Mumbai EMU from Central Railways, the Delhi Airport Metro Extension Line and the extension line of 20km for Rail Vikas Nigam Limited.

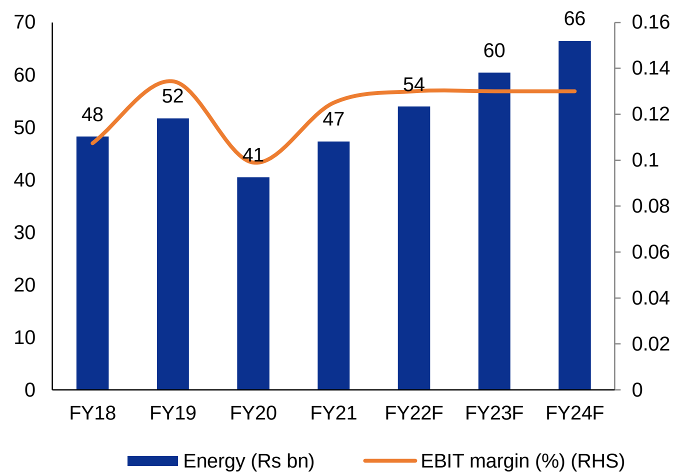
- **PORTFOLIO COMPANIES**
  The segment won orders for an integrated automation solution for cement plants and grinding units, medium voltage drives for lift irrigation project in Rayalaseema, Andhra Pradesh, and medium voltage motors for drinking water supply in Mussoorie, Uttarakhand.
  Outlook: Demand for products related to Portfolio Companies is driven by energy-saving requirements in existing industrial fan or pump applications, while the large drive applications business depends on improved demand from core sectors and incentives to achieve self-sufficiency in manufacturing.

Figure 1: Broad-based volume surge across Digital segment's main verticals driving up margin



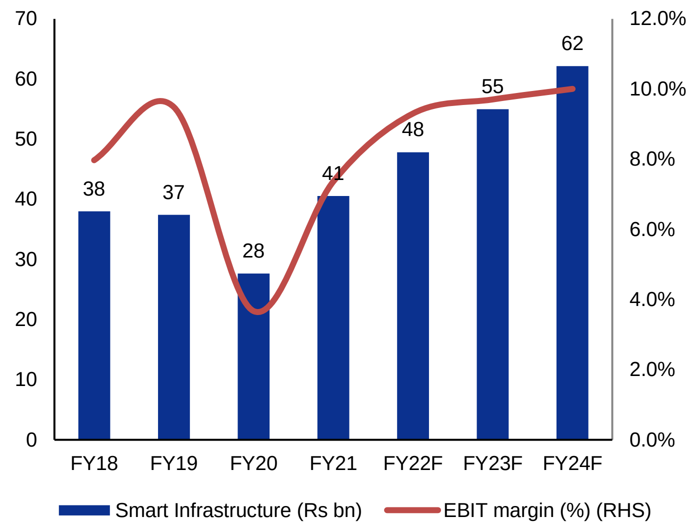
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 2: Energy segment revenue grew 17% yoy (2-year CAGR of -4%)



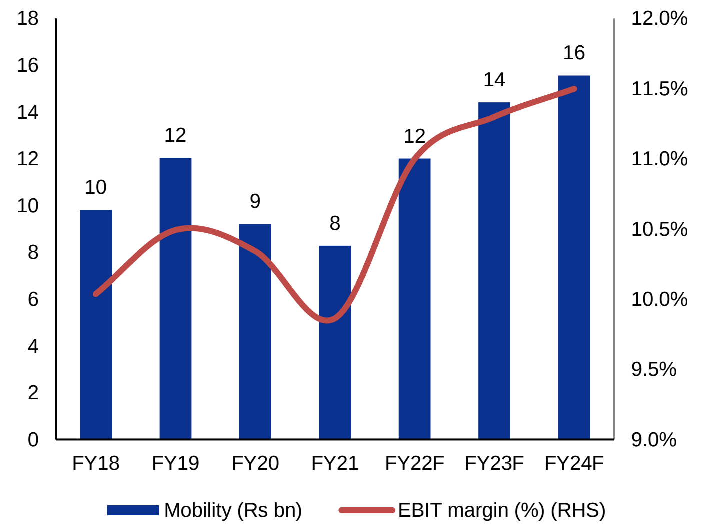
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 3: Smart Infrastructure segment revenue grew 47% yoy (2-year CAGR of 4%)



SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

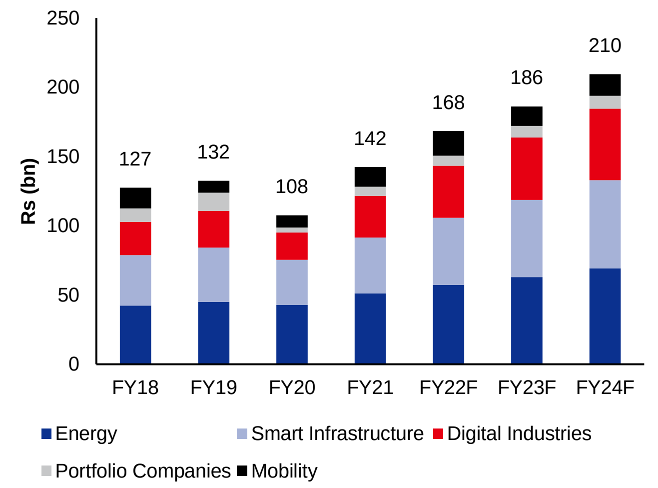
Figure 4: Mobility segment revenue declined 10% yoy on lower backlog for electrification & signalling business



SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

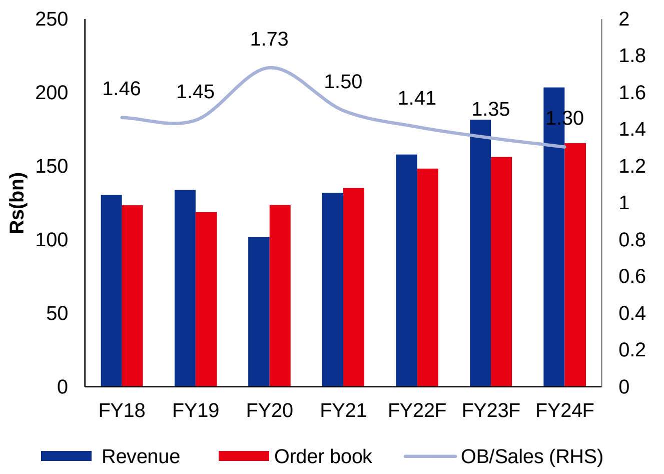
- **Order inflows:** The company's order growth was robust across all its businesses in FY21, while it was also observed that the momentum of digitalisation adoption had increased across most sectors. It won key large orders in the **Energy segment –** WHR, STATCOM orders, e-ferries for the Cochin Shipyard; **Smart Infrastructure (SI) –** data centres, e-commerce and hospitals, power distribution substation; **Digital Industries (DI) –** operational technology (OT) Cybersecurity, Industrial Edge order from hydropower plant, digitalised gas-insulated switchgear (GIS), Internet of Things (IoT) solutions for clean water; **Mobility –** Mainline railway electrification, DFC, and annual maintenance contract (AMC) order. **Energy/ SI/DI/Mobility segments grew 19%/24%/52%/63% yoy in FY21 (FY19-21 CAGR of 6.5%/2%/6.4%/28%).** As per the recent concall, orders are of short and medium cycle duration with execution timeline of under one year leading to a quick turnaround and a lot of these orders are scalable solutions.
- **Sales:** FY21 sales (+31% yoy) was aided by 49%/6%/23% yoy growth in products/ service/ projects (two-year CAGR of 2%/10.5%/-6%) and formed 57%/14%/29% of FY21 sales. Domestic/ exports grew at 35%/20% yoy (two-year CAGR of -2%/9%). Energy/ SI/DI/Mobility segments grew 17%/47%/56%/-10% yoy respectively in FY21 (two-year CAGR of -4%/ 4%/ 6%/-17%). According to management, there is a clear shift towards the private sector with a higher share of product business, digital/software business, services. The government will be primarily active in the transmission, distribution and mobility space segments.
- **Other operating income:** (-28% yoy) was impacted by lower export incentives. Other income (-29% yoy) was impacted by lower yields and cash balance (due to the C&S acquisition).

Figure 5: Order inflow bounce back strong with 32% yoy growth (2-year CAGR of 4%)



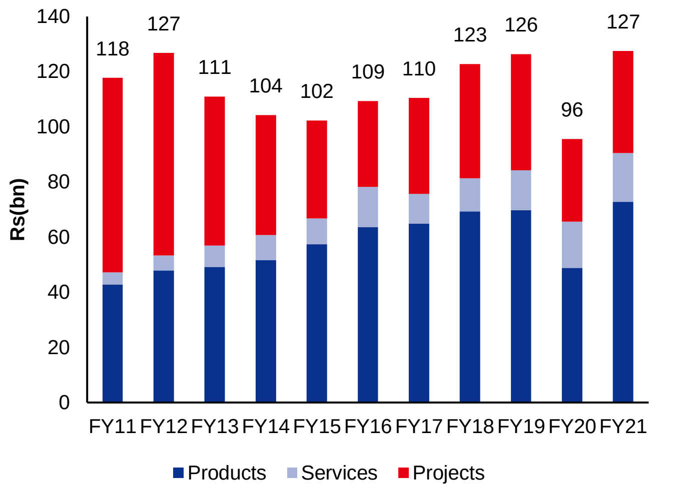
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 6: OB/Sales ratio at 1.5x as at end FY21



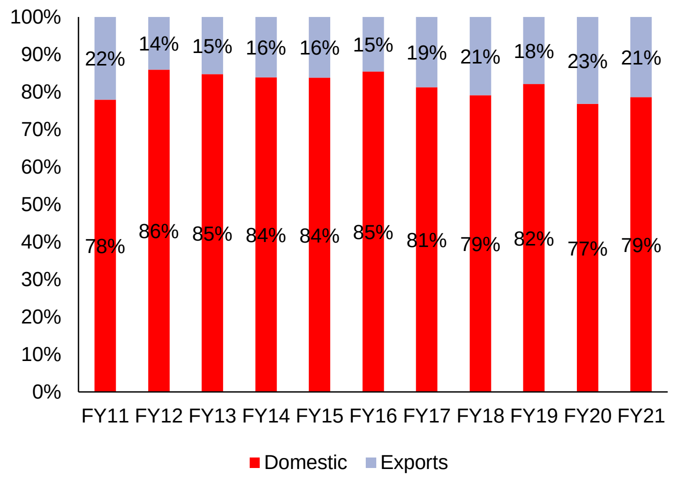
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 7: Share of revenue from Projects segment declined from 60% in FY11 to 29% in FY21



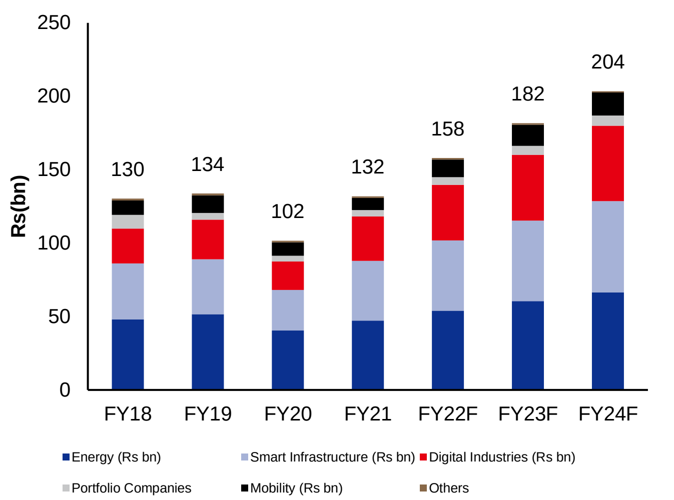
SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 8: Sales mix – Domestic and exports



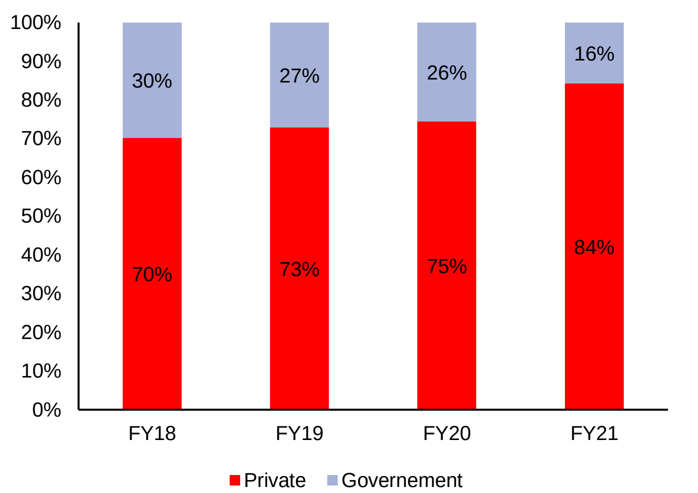
SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 9: Segmental share of revenue



SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

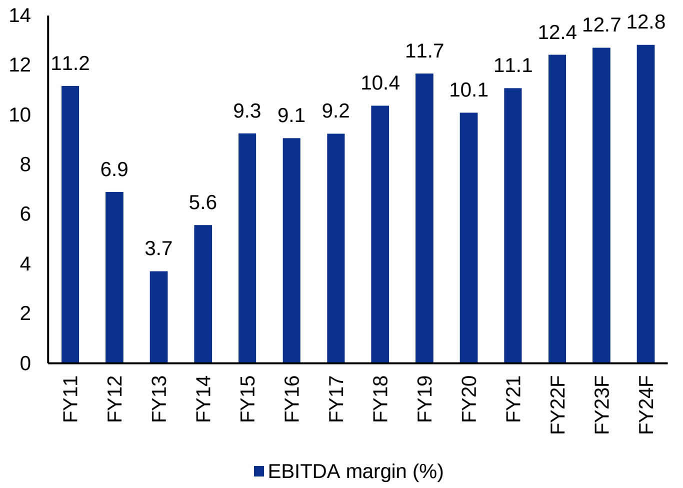
Figure 10: Share of revenue from private segment spiked in FY21



SOURCES: INCRED RESEARCH, COMPANY REPORTS

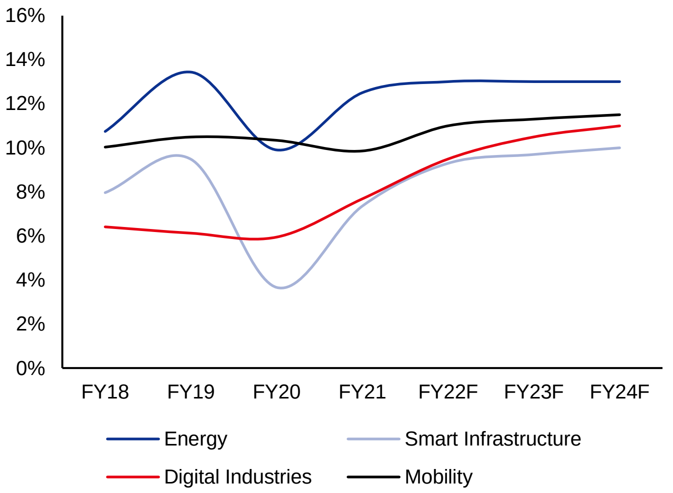
- **Margins:**
  - Gross margin declined by 442bp yoy, impacted by higher commodity prices and higher traded goods. Gross margin increased by 81% yoy, forming 30.2% of FY21 sales vs 22% in FY20 and 24% in FY19.
  - Operating leverage aided EBITDA margin, improving by 122bp yoy to 11.3%. Employee expense (+4% yoy) as a share of sales was at 12.6% (-323bp yoy) with the number of employees reducing by 681 (-7% yoy). Other expense as a share of sales stood at 8% (-260bp yoy) aided by yoy reduction in various cost parameters, mainly travel, legal, rates and taxes and provision writeback.
  - Major cost expense which saw substantial uptick in other expense were external software licence fees and other IT-related costs (+24% yoy; 1.7% of FY21 sales vs 1.9%/1.1% of sales in FY20/19), packing and forwarding (+95% yoy) and licence fees (+67% yoy; 0.7% of FY21 sales vs 0.6%/0.5% of sales in FY20/19).
  - FY21 EBIT margins for the Energy/ Digital Industries/ Smart Infrastructure/ Mobility segments were at 12.5%/7.7%/7.4%/9.9%, which were +260bp/+174bp/+369bp/-48bp yoy.
  - Earlier, in the call, the company highlighted that it expected pricing actions to offset the raw material price impact. It did not expect any dilution in margins and expected the EBITDA margin trend to improve with the increase in the share of products, digital and automation, software, services as well as private sector share in overall revenues. The company did not expect any major change in localisation for new-age products.
  - **Net foreign exchange outgo:** Foreign exchange earnings declined 12% yoy (vs export growth of 20% yoy) on a higher base (up 6.7% in FY20). Foreign exchange outgo stood at Rs49.8bn (+24% yoy) – 38.5% of sales indicating continued higher imports. Net foreign exchange outgo stood at Rs23.7bn (18.6% of FY21 sales vs 11% of sales in FY20 and an average of 19% over FY15-19).

Figure 11: EBITDA margin improved by 122bp yoy during FY21



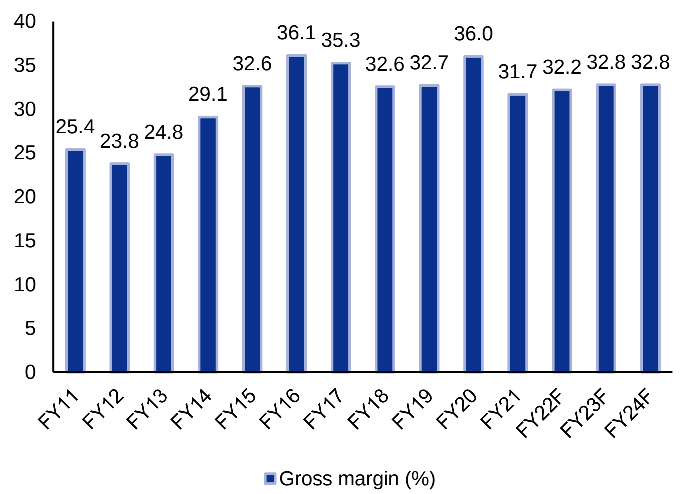
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 12: Segmental EBIT margin



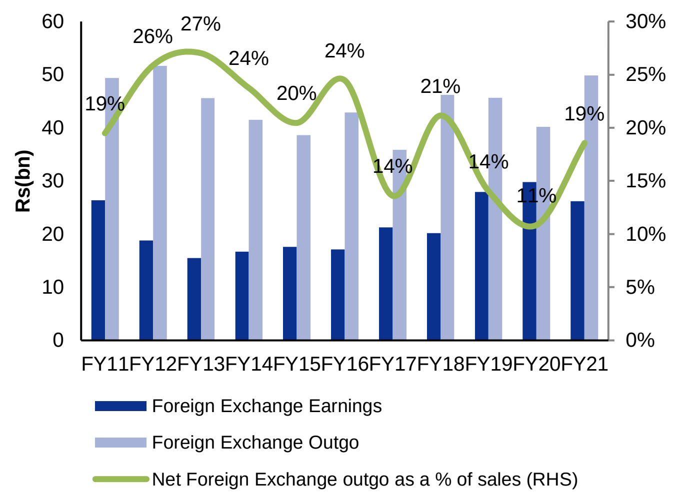
SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 13: Gross margin decreased by 435bp in FY21



SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 14: Net foreign exchange outgo as a % of revenue



SOURCES: INCRED RESEARCH, COMPANY REPORTS

- **C&S acquisition**: Siemens acquired C&S Electric Limited in FY21 for Rs21bn on a cash-free / debt-free basis aimed at addressing the rising demand for low-voltage power distribution in India and for some export markets (competitive international markets). C&S's revenue for seven months stood at Rs5.9bn, while PAT margin was weak at 1.3% impacted by integration cost. Siemens sold and transferred its Mechanical Drives business to Flender Drives Private Limited for Rs3.76bn.

Figure 15: Financial performance of Siemens' recent acquisitions

FY21 financials (Rs m)	C&S Electric	Siemens Rail Automation Pvt Ltd
Net Sales	5,932	1,130
PBT	163	356
PBT Margin	3%	32%
Provision for taxation	86	91
PAT	77	265
PAT Margin	1%	23%
Share capital	443	1
Reserves and Surplus	3,739	715
Total Assets	7,708	3,004
Total Liabilities	3,527	2,288
% of shareholding	99	100

NOTE: C&S FINANCIALS ARE FOR SEVEN MONTHS FROM 1 MAR-30 SEP
SOURCES: INCRED RESEARCH, COMPANY REPORTS

- **Net working capital (ex-cash) on days of sales** improved to 53 days in FY21 vs 75 in FY19/20, led by the improvement in debtor days (96 days of FY21 sales vs 121/111 days in FY20/19) and higher current liabilities (157 days of FY21 sales vs 181/143 in FY20/19). **Current liabilities was aided by the Rs2bn held back from the C&S sales consideration of Rs21.6bn for two years.**

Figure 16: Net working capital (days of sales)

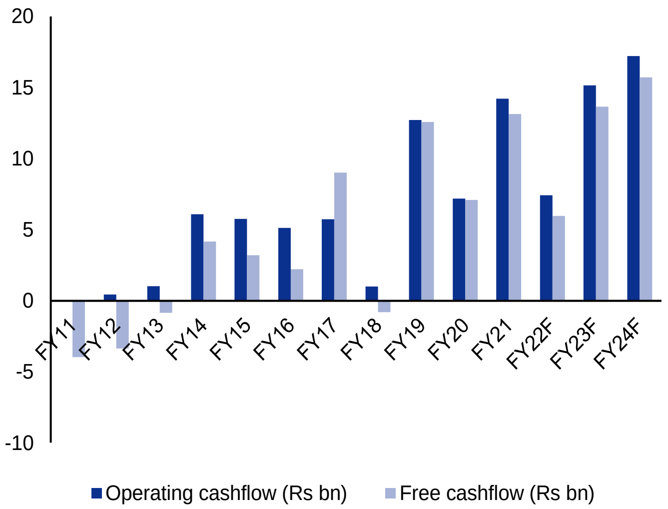
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22F	FY23F	FY24F
Current Assets														
Inventory Days	52	56	55	64	64	33	33	34	31	42	43	42	42	42
Debtor Days	127	135	145	143	113	103	114	110	111	121	96	105	105	105
Loans & advances/other current assets	44	33	39	51	55	85	91	118	109	138	105	93	91	89
Current Liabilities														
Other current liabilities	139	143	138	155	133	133	144	143	143	181	157	148	148	148
Provisions days	55	49	53	52	58	37	34	33	34	45	34	34	34	34
NWC days (excl cash)	**29**	**32**	**49**	**52**	**41**	**51**	**61**	**86**	**75**	**75**	**53**	**58**	**56**	**54**

SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

- **Capex:** Capex remained flattish at Rs1.4bn. The company further strengthened its manufacturing footprint in India by opening a medium-voltage switchgear factory in Goa. The state-of-the art factory will produce vacuum interrupters, the centerpiece of medium-voltage switch-gear components. **Investment property:** The company transferred Rs1bn from gross block to investment property and derived a rental income of Rs22m (2% yield) and profitability before indirect expenses stood at Rs3m. Fair valuation of property stood at Rs3.9bn.

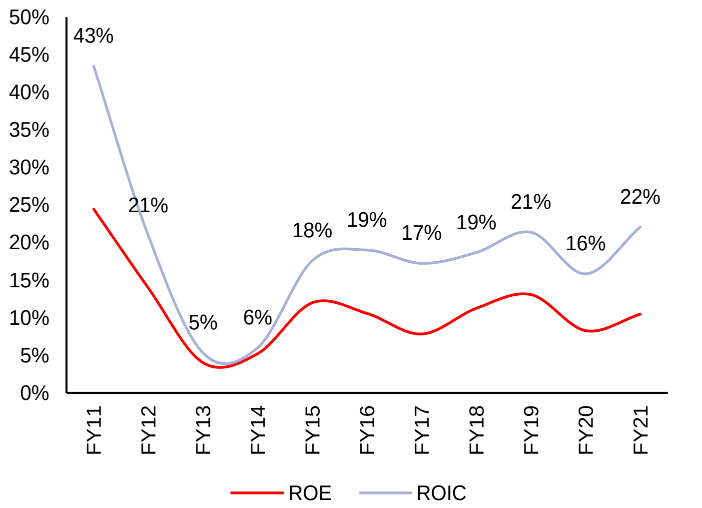
- **Net cash from operations** stood at Rs13.3bn in FY21 vs Rs6.7bn in FY20 led by the improvement in profitability and decline in working capital. Net cash was Rs48.5bn in FY21 vs Rs55.5bn in FY20 due to the investment of Rs19.6bn in C&S Electric, while booking gains of Rs3.7bn through sales of the mechanical drive business.
- **Related-party transactions**: Licence fees were up 43% yoy to Rs925m (0.73% of sales vs 0.68% of sales in FY20) as per related-party transactions (in other expense, licence fee expense stood at Rs927m in FY21 vs Rs555m in FY20). Purchase of goods & services from related parties stood at Rs40.7bn (+38% yoy) and formed 32% of FY21 vs 31% in FY20. Loans/ inter-corporate deposits outstanding stood at Rs8.08bn in FY21 vs Rs7.7bn in FY20.

Figure 17: Free cashflow improved significantly in FY21 after dropping sharply in FY20



SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS

Figure 18: ROE/RoIC trend



SOURCES: INCRED RESEARCH, COMPANY REPORTS

Siemens AG's major trend across segments, FY22 expectations

- **FY22 expectations**
  - The company expects a favourable FY22, but with some deceleration compared to FY21. The company expects the Siemens Group to achieve mid single-digit revenue growth and increase EPS to a range of €8.70 to €9.10, from €8.32 in FY21.
  - The company expects to see extended customer delivery times, high levels of order backlog and component shortages at least in the 1HFY22. Headwinds from cost inflation regarding materials, transport, and labor shortages will continue. Yet, the company is confident of containing the bottom line impact through adequate pricing measures over FY22.
- **R&D**
  - **Almost 50% of R&D investment is allocated to software and IoT and Siemens plans to intensify this to accelerate new applications, extend leading market positions, and drive gross margin.**
  - Siemens AG continued to focus on the following technologies: additive manufacturing, autonomous robotics, blockchain applications, connected (e-)mobility, connectivity and edge devices, cyber security, data analytics and artificial intelligence, distributed energy systems, energy storage, future of automation, materials, power electronics, simulation and digital twin production, and software systems and processes.

- **Acquisitions:** The company continued to strengthen its business with targeted acquisitions.
    - **C&S:** Provider of electrical and electronic equipment for infrastructure, power generation, transmission and distribution in India as a supplier of low-voltage power distribution and electrical installation technology.
    - **Varian:** Global leader in cancer care, with solutions especially in radiation oncology and related digital solutions and applications.
    - **Supplyframe:** Digital Industries acquired Supplyframe, a marketplace for the global electronics value chain, with which Digital Industries intends to significantly strengthen digital marketing and accelerate sales of its offerings to small and medium-sized companies.
    - **Sqills:** In Oct 2021, Mobility acquired SQCAP B.V. (Sqills), Netherlands, a provider of cloud-based inventory management, reservation, and ticketing software for public transport operators, which enhances Mobility's existing offerings for increasing the availability, capacity and utilisation of public transportation.

- **Segmental highlights**
- **Digital Industries:**
    - From FY22, **Digital Industries intends to transition parts of its software business, particularly product lifecycle management (PLM), from largely upfront revenue recognition towards Software as a Service (SaaS),** which yields more predictable recurring revenue and offers growth opportunities by opening access to new customers, especially small and medium-sized companies. **During the transition, Digital Industries expects revenue growth rates and profit margin development in the software business to be impacted**.
    - Digital Industries sees three trends influencing its business – 1) Producers modernising their production capacities to increase production flexibility and reduce time to market, 2) complement producers core products with vertical solutions and service offerings, and 3) trend from globalisation to regionalisation to support local economic development.
    - Digital Industries expects its primary markets to show clear growth in FY22, with somewhat diminished momentum compared to FY21. Investment demand for automation and digitalisation driven by labour shortages transformation towards more sustainability and focus on resilience of industrial value chains are intact. Higher commodity prices and cost inflation are likely to compensate with a further price increase.

- **Smart Infrastructure:**
    - Smart Infrastructure benefits from a number of favorable trends – urbanisation, demographic change, climate change (need for decarbonisation), and digitalisation (need for smarter and more human-centric buildings). To further strengthen the resilience of its portfolio, Smart Infrastructure aims at increasing the share of service revenue.
    - The company expects end markets served by Smart Infrastructure to grow slightly faster in FY22 yoy. Demand from the pharmaceutical industry, data centers and utilities are expected to be main growth drivers, while growth rates of the non-residential construction markets are expected to come in below the average growth of markets served by Smart Infrastructure.
    - Siemens expects momentum to continue for data centers, short-cycle electrical product business to continue and solutions business to pick up further in the late-cycle buildings market. The electrification market is on a solid growth trajectory with accelerating renewables integration and higher electricity consumption.
    - On a geographic basis, Asia and Australia are expected to continue to be its fastest-growing regions. Growth in the Europe, Commonwealth of Independent States (CIS), Africa and Middle East regions is expected to accelerate and markets in the Americas region are expected to return to growth.

- Smart Infrastructure's supply chains have proven to be resilient, so that major interruptions could be avoided and delivery ability was maintained.

- **Mobility**
  - **Consolidation:** In Jan 2021, Alstom SA of France announced the acquisition of Bombardier Transportation. In Aug 2021, Hitachi Ltd., Japan, announced an agreement with Hitachi Rail to acquire the Ground Transportation Systems business of Thales. **Market consolidation may lead to increased competitive pressure within the rail supply industry and to fewer sourcing options for rail customers**.
  - The main trends driving Mobility's markets are urbanisation and the need to reduce emissions, particularly from transportation. Furthermore, improving availability, connectivity, and sustainability of rail infrastructures increasingly require digital solutions, which provide growth opportunities.

- **Portfolio Companies**
  - Unrealised potential within these businesses requires adjustment in their approach using defined measures, including internal re-organisation, digitalisation, cost improvements, and optimising procurement, production and service activities.
  - **After achieving certain threshold performance targets, businesses may be transferred to one of Siemens industrial businesses, combined with an external business from the same industry**, sold or placed into an external private equity partnership. In Mar 2021 Siemens sold Flender GmbH, Germany, to Carlyle Group Inc., U.S.

Siemens AG Digital growth strategy

- Combining the real and the digital worlds is the foundation of Siemens' growth strategy as it used profound domain knowhow to develop digital applications for specific industries.
- To accomplish this, the company is rapidly driving its technology portfolio: software and automation solutions and a leading IoT platform, plus core technologies in areas such as artificial intelligence (AI), digital twins, 5G, industrial edge and cybersecurity.
- **Siemens expects its FY20 digital revenue of €5.3bn to grow at a CAGR of ~10% over the business cycle until 2025.**

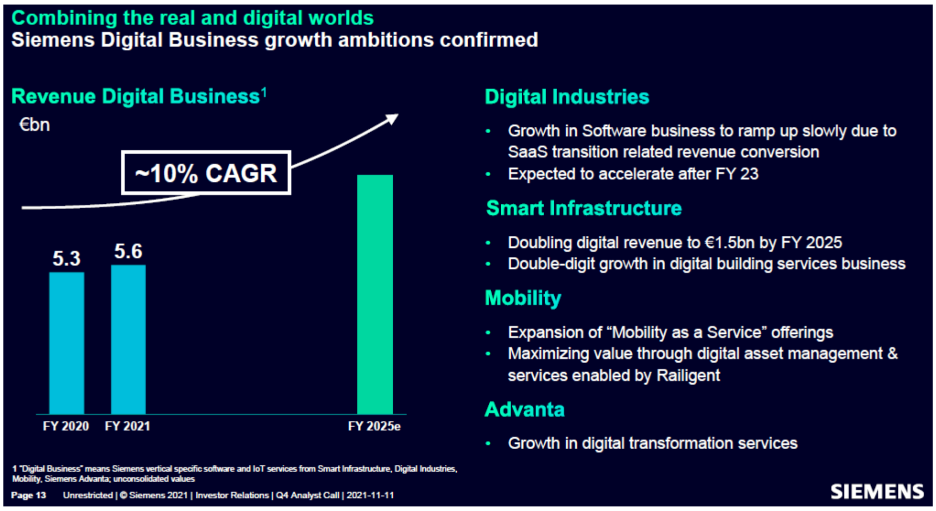
Transforming the business model to software-as-a-service (SaaS):

- Starting in FY22, Digital Industries will begin a fundamental business model transformation as it transitions a significant part of its software business to Software as a Service (SaaS) and – in addition to the established performance indicators – begins reporting annual recurring revenue (ARR). DI Software plans to introduce new SaaS offerings that will offer greater accessibility, effortless collaboration and unlimited scalability to help customers accelerate digital transformation. For Siemens, the SaaS transition will lead to more resilient and predictable revenue for DI and drive growth by opening access to new vertical.

Multiple software company acquisitions

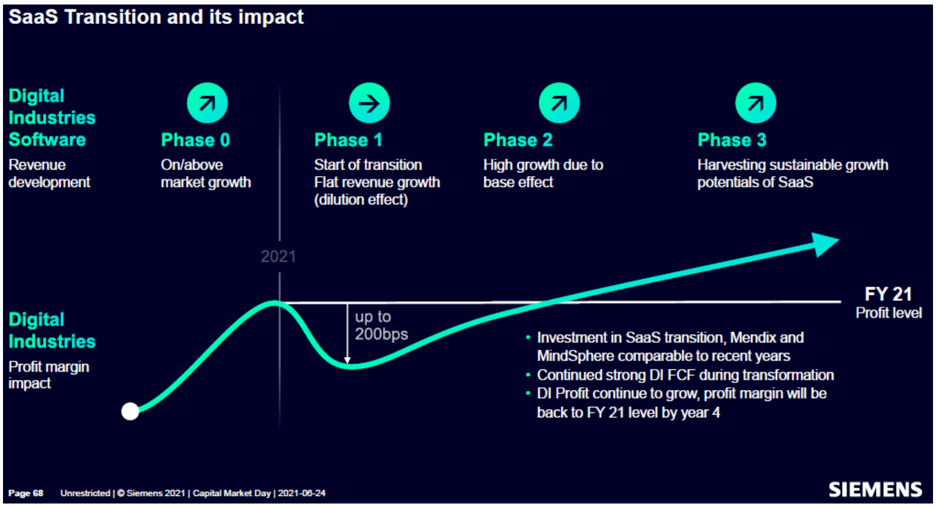
- Siemens' addressable markets for Smart Infrastructure, Digital Industries, Mobility and Siemens Healthineers amount to ~€440bn, with growth rates of 4% to 5%. Siemens wants to grow its addressable market by entering adjacent markets with attractive growth rates that are worth about €120bn. Siemens is unlocking these markets through organic growth and targeted bolt-on acquisitions, such as Supply Frame. Over the past years, Siemens has built a strong industrial software portfolio and invested more than €10bn in software companies as it has added complementary capabilities to what was already a strong portfolio by acquiring LMS, Mentor Graphics, Mendix, etc

Figure 19: Digital revenue growth path over business cycle until FY25



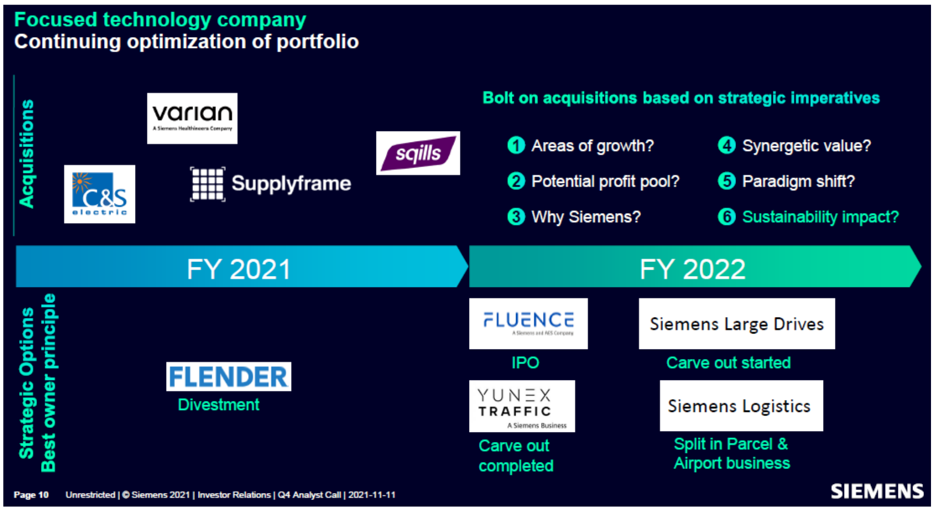
SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 20: SaaS transition and its impact



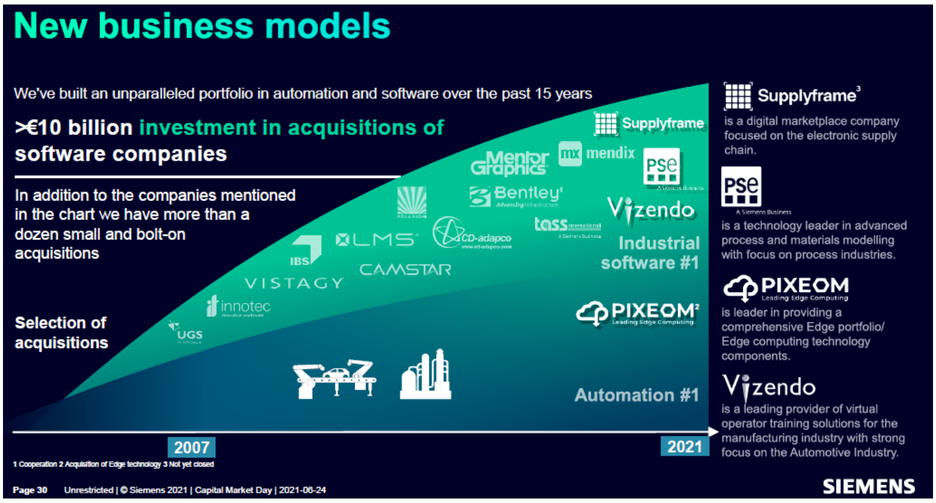
SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 21: Bolt on acquisitions in FY21



SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 22: Siemens spent >€10bn acquiring software companies in the last 15 years



SOURCES: INCRED RESEARCH, COMPANY REPORTS

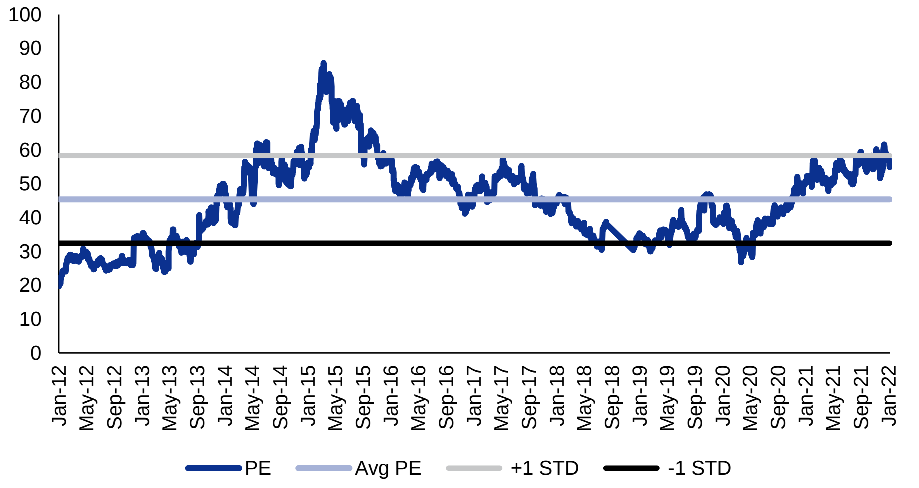
Figure 23: Siemens AG acquisitions in last few years

Year	Company Name	Description
2021	Eco Domus	The EcoDomus twin software is helping Siemens Smart Infrastructure expand its digital building portfolio, including its cloud-based building operations twin software and its flagship building management platform Desigo CC.
2021	RazorSecure	RazorSecure specialises in providing rail cybersecurity solutions and continuously monitors the behaviour of individual systems and traffic across the full network in real time.
2021	Wattsense	Wattsense, a French start-up, offers plug-and-play IoT management systems for small and mid-size buildings. It enables the adoption of energy management practices in facilities with little or no building management system technology. Lowering entry barriers while keeping capital expenditures low, multi-protocol devices can be onboarded easily before being connected to the cloud and operated in a Software as a Service (SaaS) model.
2021	Squills	Squills is a leading SaaS provider of cloud-based inventory management, reservation, and ticketing software to public transport operators around the world. Together with Hacon, eos.uptrade, Bytemark and Padam Mobility, Sqills will become part of an interconnected software portfolio where a wide variety of services for public transport will be brought together.
2021	Railterm	Railterm will help Siemens grow its Canadian business and allow Siemens Mobility to expand its existing portfolio with on-the-ground track and signalling, electrification and communications systems.
2021	Supplyframe	Supplyframe is a marketplace for the global electronics value chain, with which Siemens's Digital Industries intends to significantly strengthen digital marketing and accelerate sales of its offerings to small- and medium-sized companies.
2021	Padam Mobility	Padam Mobility provides AI-powered platforms and applications for on-demand and paratransit services. The leading SaaS organisation helps transit operators to provide more efficient transportation in both urban and rural areas. This acquisition enhances Siemens Mobility's intelligent infrastructure portfolio focused on intermodal transportation.
2020	Macquarie Green Investment Group	Macquarie's Green Investment Group (GIG), Siemens Smart Infrastructure and Siemens Financial Services (SFS) formed Calibrant Energy (Calibrant), a joint venture that offers onsite energy solutions that seek to deliver immediate cost savings, cost certainty, resilience and low-cost energy grid augmentation.
2020	Avatar Integrated Systems Inc	Avatar is a leading developer of place and route software for integrated circuit (IC) design which helps engineers optimise power, performance, and area (PPA) for complex chips with fewer resources. Siemens plans to add Avatar's technology to the Xcelerator portfolio as part of Mentor's IC suite of software, capitalising on the growing segment of place and route.
2020	C&S Electric	C&S Electric, a leading provider of electrical and electronic equipment for infrastructure, power generation, transmission and distribution, will strengthen Siemens' position as a key supplier of low-voltage power distribution and electrical installation technology in India and support the export of electrification solutions to fast-developing markets.
2020	UltraSoc	UltraSoC enables a unified data-driven infrastructure that can enhance product quality, safety and cybersecurity, and the creation of a comprehensive solution to help semiconductor industry customers overcome key pain points including manufacturing defects, software and hardware bugs, device early-failure and wear-out, functional safety, and malicious attacks. It provides access not just design-for-test, but a comprehensive 'Design for Lifecycle Management' solution for system-on-chips, including functional safety, security and optimisation. UltraSoC can complement Tessent to create a truly unique offering in the market.
2019	Process Systems Enterprise	Process Systems Enterprise (PSE) is a supplier of software and services for advanced process modelling. Advanced models are used within digital R&D, design and operations in the process industries to help make fast, safe and more efficient decisions through rapid and effective exploration of the decision space. PSE offers model-based solutions that span the entire process lifecycle via a unified and integrated set of tools.
2019	Russelectric	Russelectric is a leading US manufacturer of power control systems. These combined efforts will allow Siemens to fulfil needs across critical markets like data centres, public infrastructure, and healthcare.
2018	J2 Innovations	J2 Innovations (J2) is a leading software framework provider for building automation and IoT. The company has been a successful player in the Internet-of-Things (IoT) software business with its FIN (Fluid INtegration) Framework technology.
2018	Aimsun	Aimsun develops software that simulates future traffic flows in the planning phase of construction projects. In daily traffic management, Aimsun has developed a software solution that uses real-time data to help to optimise traffic flows and predict as well as prevent congestion before it occurs. In combination with the acquisition of HaCon, the company is expanding its strong position in rail and road automation technology
2018	Mendix	Mendix is a pioneer and leader in cloud native low code application development with its platform. With the acquisition of Mendix, Siemens continues to add to its comprehensive Digital Enterprise and MindSphere IoT portfolio, with cloud domain expertise, cloud agnostic platform solutions and highly skilled people.
2018	LMS International NV, Belgium	LMS International NV, Belgium, is a leading provider of mechatronic simulation solutions. Siemens intends to expand and complement the industry sector's product lifecycle management portfolio with mechatronic simulation and testing software.
2017	TASS International	TASS International is a global provider of simulation software, plus engineering and test services aimed primarily at the automotive industry, and focussed on autonomous driving, integrated safety, advanced driver assistance systems (ADAS), and tyre modelling. It strengthens Siemens' PLM software portfolio, and adds to its position as the leading supplier of systems-driven product development offerings for the global automotive industry.
2017	Mentor Graphics Corporation, USA	Mentor Graphics Corporation is a world leader in electronic hardware and software design solutions, providing products, consulting services and award-winning support for the world's most successful electronic, semiconductor and systems companies.

2016	CD-Adapco	CD-Adapco is a global engineering simulation company with software solutions covering a wide range of engineering disciplines including Fluid Dynamics (CFD), Solid Mechanics (CSM), heat transfer, particle dynamics, reactant flow, electrochemistry, acoustics and rheology.
2016	Bentley Systems	Siemens and Bentley Systems have formalised a strategic alliance agreement to drive new business value by accelerating digitalisation in order to advance infrastructure project delivery and asset performance in complementary business areas. Siemens and Bentley Systems will initially invest at least EUR50m in developing joint solutions to enlarge their respective offerings for infrastructure and industry for the benefit of the end customers.
2015	Polarion Software	Polarion Software is developer of the first browser-based application lifecycle management (ALM) enterprise solution. Polarion is a leader in the ALM market, leveraging an open architecture, exhibiting state-of-art source code management and supporting the needs of open source development.
2015	Dresser-Rand, USA	With its comprehensive portfolio of compressors, steam turbines, gas turbines and engines, Dresser-Rand is a leading supplier to oil & gas, process, power and other industries in the related energy infrastructure markets worldwide. The acquisition complements Siemens' existing offerings, notably for the global oil & gas industry and for distributed power generation.
2014	Camstar Systems Inc	Camstar's enterprise Manufacturing Execution Systems (MES) portfolio delivers scalable, flexible, enterprise-wide solutions for centralised or distributed multi-site manufacturing environments. The Camstar portfolio includes next-generation, high-performance analytics to gain insight into the operations of complex and global processes. Camstar's solutions will further accelerate Siemens' integration of PLM with the Manufacturing Operations Management (MOM) domain.
2014	Rolls Royce Energy Gas Turbine	Rolls-Royce Energy's gas turbine and compressor business is a leading provider of aero-derivative gas turbines. Siemens' acquisition of the Rolls-Royce Energy aero-derivative gas turbine and compressor business strengthens its position in the growing oil and gas industry and in decentralised power generation.
2013	Invensys Rail, GroBbritannien	Invensys Rail is a leading software-based rail signalling and control company. The acquisition will expand Siemens' presence in the growing global rail automation market.
2012	Connectors and Measurements Division of Expro Holdings UK	The acquired business engineers and manufactures subsea components such as cable connectors, sensors and measuring devices. With this acquisition Siemens aimed for strategically expanding its portfolio in the attractive future market for subsea power grids.
2012	IBS AG	IBS AG is a supplier of software solutions for industrial quality and production management, Siemens complements its offering of industrial automation solutions.
2012	Rugged Com Inc, Canada	RuggedCom is a leading provider of communications and networking solutions for harsh industrial environments.
2011	NEM B.V. und NEM Energy Services B.V.	The Dutch sister companies NEM B.V. and Nem Energy Services B.V. (NES) are two specialists in heat recovery steam generators for combined-cycle (gas and steam) power plants (CCPP), key components in the construction of a combined-cycle power plant. This purchase enables Siemens to expand its capacities and enhance its expertise over the long term.
2011	Vistagy Inc	Supplier of specialised engineering software and services with the emphasis on designing and manufacturing structures made of advanced composite materials.
2008	Innotec Gmbh	Innotec GmbH (Schwelm, Germany) is one of the leading software vendors of lifecycle management systems. At the heart of Innotec's services is the lifecycle engineering system Comos, an integrated corporate solution for plant lifecycle asset information management. The company's customers in the process industry and those in the discrete manufacturing industry will be able to significantly reduce the time-to-market with coordinated Siemens technology.
2007	UGS Corp	UGS Corp. is a leading global provider of product lifecycle management (PLM) software and services.

SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 24: Siemens' P/E is trading just below +1SD of the 10-year long term



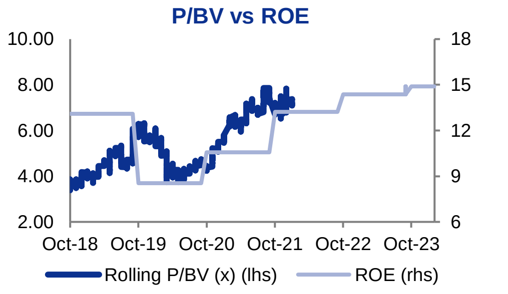
SOURCES: BLOOMBERG, INCRED RESEARCH, COMPANY REPORTS

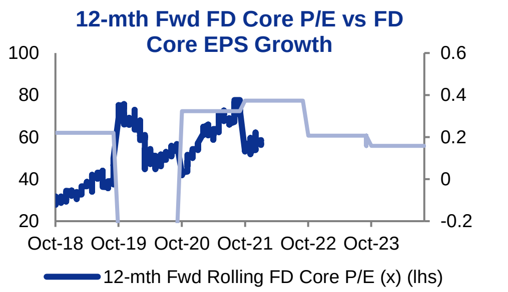
Figure 25: Peer comparison

Company	Bloomberg Ticker	Recom.	Price Rs	TP Rs	Mkt cap` (US$ m)	P/E (x) FY22F	FY23F	FY24F	P/BV (x) FY22F	FY23F	FY24F	EV/EBITDA (x) FY22F	FY23F	FY24F	Dividend Yield (%) FY22F	FY23F	FY24F
ABB India	ABB IN	Reduce	2,281	1,620	6,527	102	76	62	11.0	9.9	8.7	69	53	42	0.3	0.3	0.3
Bharat Heavy Electricals	BHEL IN	Reduce	63	38	2,943	-43	59	29	0.8	0.8	0.8	-55	27	16	0.0	0.8	1.7
Cummins India	KKC IN	Add	922	1,000	3,564	32	27	23	5.3	4.8	4.4	29	23	20	1.8	2.0	2.1
Larsen & Toubro	LT IN	Add	1,953	2,160	37,050	31	26	22	3.4	3.1	2.8	21	18	16	1.8	1.1	1.1
Siemens India	SIEM IN	Hold	2,186	2,315	11,131	75	54	45	7.5	6.8	6.1	48	35	30	0.3	0.5	0.5
Thermax	TMX IN	Hold	1,921	1,610	3,091	61	43	38	6.2	5.5	5.0	41	29	26	0.4	0.5	0.6
Voltas	VOLT IN	Hold	1,254	1,265	5,601	60	45	39	7.5	6.7	5.9	50	37	31	0.4	0.6	0.6
KEC International	KECI IN	Add	483	520	1,677	22	16	13	2.7	2.3	2.0	11	8	7	0.8	1.3	1.6
Bharat Electronics	BHE IN	Add	211	235	6,937	21	19	17	4.2	3.8	3.4	15	14	13	2.1	2.3	2.6
Bharat Dynamics	BDL IN	Hold	400	325	988	17	11	9	2.5	2.2	1.9	9	6	5	2.4	3.7	4.5
Hindustan Aeronautics	HNAL IN	Add	1,296	1,530	5,853	12	11	10	2.4	2.1	1.8	6	6	5	2.6	2.7	3.1

SOURCES: INCRED RESEARCH ESTIMATES, COMPANY REPORTS. PRICED AS AT 11 JAN 2022

BY THE NUMBERS





Profit & Loss

(Rs mn)	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
Total Net Revenues	**99,697**	**136,380**	**166,692**	**191,606**	**215,094**
Gross Profit	**36,073**	**43,263**	**53,675**	**62,847**	**70,551**
Operating EBITDA	**10,268**	**15,173**	**20,757**	**24,450**	**27,712**
Depreciation And Amortisation	(2,521)	(3,005)	(3,358)	(3,397)	(3,497)
Operating EBIT	**7,747**	**12,168**	**17,399**	**21,052**	**24,214**
Financial Income/(Expense)	(295)	(246)	(246)	(226)	(206)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	3,149	2,265	2,365	2,719	3,243
Profit Before Tax (pre-EI)	**10,601**	**14,187**	**19,518**	**23,545**	**27,251**
Exceptional Items					
Pre-tax Profit	**10,601**	**14,187**	**19,518**	**23,545**	**27,251**
Taxation	(2,674)	(3,698)	(5,117)	(6,173)	(7,145)
Exceptional Income - post-tax					
Profit After Tax	**7,927**	**10,489**	**14,401**	**17,372**	**20,106**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**7,927**	**10,489**	**14,401**	**17,372**	**20,106**
Recurring Net Profit	7,927	10,489	14,401	17,372	20,106
Fully Diluted Recurring Net Profit	**7,927**	**10,489**	**14,401**	**17,372**	**20,106**

Cash Flow

(Rs mn)	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
EBITDA	10,268	15,173	20,757	24,450	27,712
Cash Flow from Invt. & Assoc.	88	(115)	(1,239)	(904)	(461)
Change In Working Capital	(1,095)	2,339	(8,150)	(3,066)	(3,156)
(Incr)/Decr in Total Provisions	354	(184)			
Other Non-Cash (Income)/Expense	2,521	3,005	3,358	3,397	3,497
Other Operating Cashflow	(1,935)	(2,262)	(2,119)	(2,493)	(3,037)
Net Interest (Paid)/Received					
Tax Paid	(3,004)	(3,735)	(5,117)	(6,173)	(7,145)
Cashflow From Operations	**7,197**	**14,221**	**7,490**	**15,211**	**17,411**
Capex	(180)	(1,177)	(1,466)	(1,500)	(1,500)
Disposals Of FAs/subsidiaries	78	3,862			
Acq. Of Subsidiaries/investments	(3,938)	(17,382)			
Other Investing Cashflow	8,811	(9,196)	2,365	2,719	3,243
Cash Flow From Investing	**4,771**	**(23,893)**	**899**	**1,219**	**1,743**
Debt Raised/(repaid)		(1,695)			
Proceeds From Issue Of Shares					
Shares Repurchased					
Dividends Paid	(3,005)	(2,493)	(3,560)	(4,272)	(4,984)
Preferred Dividends					
Other Financing Cashflow	(855)	(830)	(246)	(226)	(206)
Cash Flow From Financing	**(3,860)**	**(5,018)**	**(3,806)**	**(4,498)**	**(5,190)**
Total Cash Generated	8,108	(14,690)	4,582	11,932	13,964
Free Cashflow To Equity	**11,968**	**(11,367)**	**8,388**	**16,430**	**19,154**
Free Cashflow To Firm	**11,968**	**(9,672)**	**8,388**	**16,430**	**19,154**

SOURCES: INCRED RESEARCH, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rs mn)	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
Total Cash And Equivalents	57,096	51,591	56,046	68,110	82,066
Total Debtors	32,226	37,738	47,333	54,475	61,206
Inventories	11,152	17,969	20,285	23,346	26,231
Total Other Current Assets	38,725	39,407	42,915	48,339	53,718
Total Current Assets	**139,199**	**146,705**	**166,579**	**194,270**	**223,221**
Fixed Assets	10,954	20,666	18,774	16,877	14,880
Total Investments	3,938				
Intangible Assets		11,732	11,732	11,732	11,732
Total Other Non-Current Assets	2,524	473	473	473	473
Total Non-current Assets	**17,416**	**32,871**	**30,979**	**29,082**	**27,085**
Short-term Debt					
Current Portion of Long-Term Debt					
Total Creditors	49,683	62,899	67,618	77,821	87,437
Other Current Liabilities	12,012	13,081	15,631	17,990	20,213
Total Current Liabilities	**61,695**	**75,980**	**83,249**	**95,811**	**107,649**
Total Long-term Debt		25	25	25	25
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities					
Total Non-current Liabilities		**25**	**25**	**25**	**25**
Total Provisions					
Total Liabilities	**61,695**	**76,005**	**83,274**	**95,836**	**107,674**
Shareholders Equity	94,920	103,490	114,331	127,431	142,553
Minority Interests		81	81	81	81
Total Equity	**94,920**	**103,571**	**114,412**	**127,512**	**142,634**

Key Ratios

	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
Revenue Growth	(24.1%)	38.9%	22.6%	15.1%	12.4%
Operating EBITDA Growth	(32.7%)	47.8%	36.8%	17.8%	13.3%
Operating EBITDA Margin	10.6%	11.3%	12.6%	12.9%	13.0%
Net Cash Per Share (Rs)	160.38	144.85	157.36	191.25	230.45
BVPS (Rs)	266.63	290.70	321.15	357.95	400.43
Gross Interest Cover	26.26	49.46	70.73	93.15	117.55
Effective Tax Rate	25.2%	26.1%	26.2%	26.2%	26.2%
Net Dividend Payout Ratio	31.4%	23.8%	24.7%	24.6%	24.8%
Accounts Receivables Days	130.09	93.62	93.14	96.97	98.15
Inventory Days	64.11	57.07	61.77	61.84	62.60
Accounts Payables Days	289.68	220.65	210.76	206.14	208.65
ROIC (%)	14.2%	26.7%	24.9%	26.8%	29.9%
ROCE (%)	8.4%	12.3%	16.0%	17.4%	17.9%
Return On Average Assets	5.3%	6.3%	7.7%	8.3%	8.6%

Key Drivers

	Sep-20A	Sep-21A	Sep-22F	Sep-23F	Sep-24F
Revenues	99,465	129,631	155,203	178,447	200,019
yoy growth (%)	(24)	30	20	15	12
EBIT	7,399	12,312	16,761	19,965	22,832
EBIT margins (%)	7	9	11	11	11
Order inflow	107,518	142,343	168,398	186,246	209,517
yoy growth (%)	(19)	32	18	11	12
Order backlog	123,596	135,200	148,395	156,195	165,692
yoy growth (%)	4	9	10	5	6

SOURCES: INCRED RESEARCH, COMPANY REPORTS

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Corporate Governance Report of Thai Listed Companies (CGR). CG Rating by the Thai Institute of Directors Association (Thai IOD) in 2021, Anti-Corruption 2021

ADVANC – Excellent, Certified, **AMATA** – Excellent, Certified, **ANAN** – Excellent, n/a, **AOT** – Excellent, n/a, **AP** – Excellent, Certified, **ASP** – Excellent, n/a, **AWC** – Excellent, Declared, **AU** – Good, n/a, **BAM** – Very Good, Certified, **BAY** – Excellent, Certified, **BBL** – Excellent, Certified, **BCH** – Very Good, Certified, **BCP** - Excellent, Certified, **BCPG** – Excellent, Certified, **BDMS** – Excellent, n/a, **BEAUTY** – Good, n/a, **BEM** – Excellent, n/a **BH** - Good, n/a, **BJC** – Very Good, n/a, **BLA** – Very Good, Certified, **BTS** - Excellent, Certified, **CBG** – Very Good, n/a, **CCET** – n/a, n/a, **CENTEL** – Excellent, Certified, **CHAYO** – Very Good, n/a, **CHG** – Very Good, n/a, **CK** – Excellent, n/a, **COM7** – Excellent, Certified, **CPALL** – Excellent, Certified, **CPF** – Excellent, Certified, **CPN** - Excellent, Certified, **CPNREIT** – n/a, n/a, **CRC** – Excellent, Declared, **DELTA** - Excellent, Certified, **DDD** – Excellent, n/a, **DIF** – n/a, n/a, **DOHOME** – Very Good, Declared, **DREIT** – n/a, n/a, **DTAC** – Excellent, Certified, **ECL** – Excellent, Certified, **EGCO** - Excellent, Certified, **EPG** – Excellent, Certified, **ERW** – Very Good, Certified, **GFPT** - Excellent, Certified, **GGC** – Excellent, Certified, **GLOBAL** – Excellent, n/a, **HANA** - Excellent, Certified, **HMPRO** - Excellent, Certified, **HUMAN** – Good, n/a, **ICHI** – Excellent, Certified, **III** – Excellent, Declared, **INTUCH** - Excellent, Certified, **IRPC** – Excellent, Certified, **ITD** – Very Good, n/a, **IVL** - Excellent, Certified, **JASIF** – n/a, n/a, **JKN** – n/a, Certified, **JMT** – Very Good, n/a, **KBANK** - Excellent, Certified, **KCE** - Excellent, Certified, **KEX** – Very Good, Declared, **KKP** – Excellent, Certified, **KSL** – Excellent, Certified, **KTB** - Excellent, Certified, **KTC** – Excellent, Certified, **LH** - Excellent, n/a, **LPN** – Excellent, Certified, **M** – Very Good, Certified, **MAKRO** – Excellent, Certified, **MC** – Excellent, Certified, **MEGA** – Very Good, n/a, **MINT** - Excellent, Certified, **MTC** – Excellent, Certified, **NETBAY** – Very Good, n/a, **NRF** – Very Good, Declared, **OR** – Excellent, n/a, **ORI** – Excellent, Certified, **OSP** – Excellent, n/a, **PLANB** – Excellent, Certified, **PRINC** – Very Good, Certified, **PR9** – Excellent, Declared, **PSH** – Excellent, Certified, **PTT** - Excellent, Certified, **PTTEP** - Excellent, n/a, **PTTGC** - Excellent, Certified, **QH** – Excellent, Certified, **RAM** – n/a, n/a, **RBF** – Very Good, n/a, **RS** – Excellent, Declared, **RSP** – Good, n/a, **S** – Excellent, n/a, **SAK** – Very Good, Declared, **SAPPE** – Very Good, Certified, **SAWAD** – Very Good, n/a, **SCB** - Excellent, Certified, **SCC** – Excellent, Certified, **SCGP** – Excellent, Declared, **SECURE** – n/a, n/a, **SHR** – Excellent, n/a, **SIRI** – Excellent, Certified, **SPA** – Very Good, n/a, **SPALI** - Excellent, Certified, **SPRC** – Excellent, Certified, **SSP** - Good, Certified, **STEC** – Excellent, n/a, **SVI** – Excellent, Certified, **SYNEX** – Very Good, Certified, **TCAP** – Excellent, Certified, **THANI** – Excellent, Certified, **TIDLOR** – n/a, Certified **TISCO** - Excellent, Certified, **TKN** – Very Good, n/a, **TOP** - Excellent, Certified, **TRUE** – Excellent, Certified, **TTB** - Excellent, Certified, **TU** – Excellent, Certified, **TVO** – Excellent, Certified, **VGI** – Excellent, Certified, **WHA** – Excellent, Certified, **WHART** – n/a, n/a, **WICE** – Excellent, Certified, **WORK** – Good, n/a.

- CG Score 2021 from Thai Institute of Directors Association (IOD)
- Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of August 5, 2021) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.

Recommendation Framework

Stock Ratings	Definition:
Add	The stock's total return is expected to exceed 10% over the next 12 months.
Hold	The stock's total return is expected to be between 0% and positive 10% over the next 12 months.
Reduce	The stock's total return is expected to fall below 0% or more over the next 12 months.

The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

Sector Ratings	Definition:
Overweight	An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
Neutral	A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
Underweight	An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

Country Ratings	Definition:
Overweight	An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark.
Neutral	A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark.
Underweight	An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark.