

Thematic Research

Keep Your Friends Close, But Competitors Closer

A Handbook to WEG's Competitive Landscape

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WEG | Neutral, TP R\$35.00/share

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A Handbook to WEG's Competitive Landscape

Competition has always been on investors' spotlight regarding WEG's investment thesis. With a complex business model broke-down into several industrial-related segments (counting on different cyclical behaviors and secular growth trends), we believe that a proper understanding on WEG's competitive landscape is essential. In this thematic piece, we provide details on: (i) WEG's competitive landscape at each of its main segments; (ii) market share figures (domestically and in external markets); (iii) industry's hot topics; (iv) profitability trends analyzing peers; (v) a recap on historical M&As; and (vi) valuation comparison. Moreover, we provide a detailed overview of WEG's main competitors.

In this report, we explore WEG's competitive landscape in detail through its different segments, analyzing sectorial trends and providing a complete overview of its main peers.

Large M&As are not new. WEG's announced acquisition of Regal's industrial operations is not new to the industry, following large M&As as ABB, Nidec and Wolong did in the past. With brand recognition as an essential factor, we expect WEG to rely on Regal's established brands (e.g.: Marathon) as its competitors previously did, although capturing synergies in a more efficient way through its highly verticalized profile.

Profitability insights from peers. With peers showing a more volatile profitability behavior analyzing each segment separately (EEI and GTD), we believe that WEG successfully overlaps different cycle profiles, resulting on a less volatile profitability performance over time. Finally, considering short-term trends, we expect a profitability pressure on industrial-related short-cycle products to reduce WEG's margin standpoint, although at a slower pace given its exposure to GTD's positive long-cycle momentum.

What about valuation? We see WEG's historical multiple premium vs. global industrials as deserved, given its consistent earnings growth and higher returns. That said, we note that current premium of ~28% seems fair, vs. its 10-year average of ~60% and ~30% pre-2018 (reflecting WEG's current earnings deceleration, in our view).

Estimates	2022A	2023E	2024E	2025E
Net Revenues (R\$ million)	29,905	32,380	35,134	39,400
EBITDA (R\$ million)	5,591	7,030	7,482	8,158
EBITDA Margin (%)	18.7%	21.7%	21.3%	20.7%
Net Profit (R\$ million)	4,182	5,371	5,388	5,869
P/E (x)	37.4x	29.1x	29.0x	26.7x
EV/EBITDA (x)	27.9x	21.9x	20.5x	18.7x
Dividend Yield (%)	1.2%	1.5%	1.8%	1.9%

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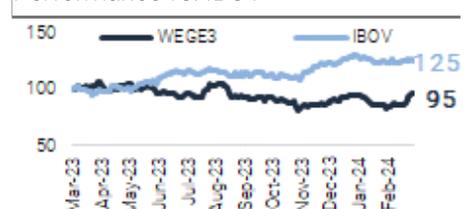
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WEG (WEGE3)	Neutral
Target Price (R\$/sh.)	35.00
Current Price (R\$/sh.)	37.29
Upside (%)	-6%
Market Cap (R\$ million)	156,518
# of shares (million)	4197
Free Float (%)	35%
ADTV (R\$ million)	252

Performance vs. IBOV



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Sector Overview

Understanding the Competitive Landscape

WEG at a Glance

A Competition Overview at Each of WEG's Main Products

WEG has a complex business model, with a complete variety of electric-related products, overlapping cyclical components (industrial/commercial motors, paints and varnishes, transformers, steam/hydro generators), energy transition-exposed applications (wind and solar generation solutions), scalable products (gear boxes, drives, soft starters, control panels) and high growth segments (electromobility, energy storage, smart housing), with top-line profile changing over time following abovementioned distinct growth trends.

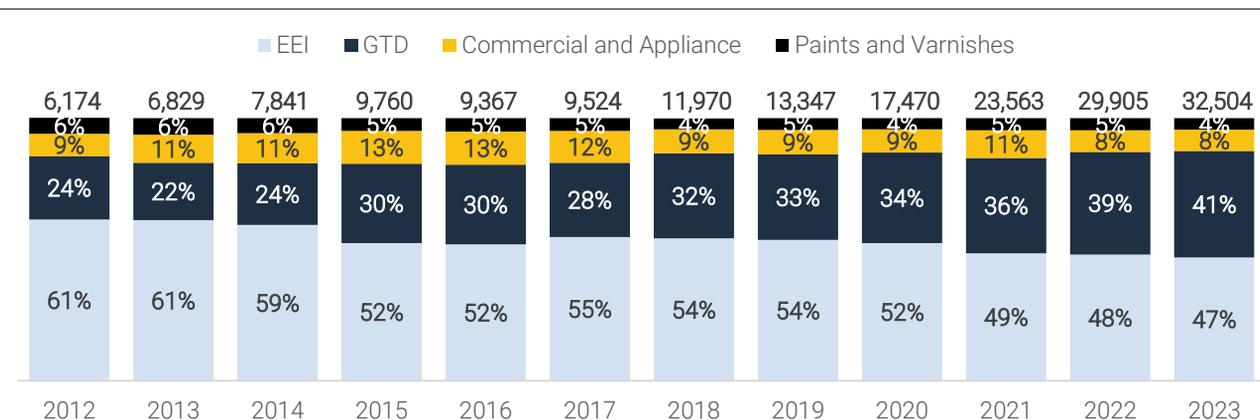
With ABB, Siemens and GE as WEG's most integrated and comparable competitors, in our view (and present among WEG's most relevant products), we see niched peers becoming increasingly important when analyzing competition, particularly given WEG's continued changing top-line exposure in the upcoming years (e.g.: Hitachi and Toshiba in T&D; Schneider, Rockwell and Emerson in automation-related products etc.).

In this report, we aim to provide a detailed granularity on WEG's competitive landscape, competitors, sector trends, M&As evolution and more.

Figure 1: XPe Estimated Net Revenue Breakdown by Segment and Main Competitors

Estimated Revenue Breakdown By Segment	2023e	Main Competitors
Total	100%	ABB, GE, Siemens, Schneider, Regal, Nidec
EI	47%	ABB, Siemens, Wolong, Rockwell
Motion	37%	ABB, Siemens, Wolong
Industrial Motors	36%	ABB, Siemens, Wolong, Nidec, Regal
Gear Boxes	1%	SEW, ABB, Regal
Powertrain	1%	ABB, Siemens
Automation	10%	ABB, Schneider, Siemens, Rockwell, Emerson, GE
Drives, Soft Starters and Controls	8%	Schneider, Rockwell, Emerson, GE, ABB
Smart Housing	1%	Intelbras, Siemens
Energy Storage	1%	BYD
Recharge stations	1%	ABB, Siemens, EnelX
GTD	41%	GE, Siemens Energy, Hitachi, Toshiba, Schneider
Solar	11%	Descarbonize, Intelbras, ABB, Siemens Energy, GE
Wind	8%	Vestas, Nordex, Siemens Energy, Goldwind, GE
T&D	14%	Siemens Energy, Prolec (GE), Hitachi, Toshiba, Schneider
Generators & Alternators	8%	GE, Siemens, ABB, Regal, Hitachi, Toshiba
Commercial and Appliance Motors	8%	Regal, Nidec, ABB
Paints and Varnishes	4%	PPG, Sherwin, Akzo

Figure 2: Historical Revenue Breakdown by Segment



Understanding EEI's and GTD's Competition Overlap

If You Only Have 1 Minute...

Figure 3: Portfolio and Segments Overlap Between WEG & Peers; Companies' Summary

Portfolio Overlap	EEI & Commercial and Appliances Motors				GTD	If you only have 1 minute..
	Motion Drive	Electrification & Automation	Digitalization	Commercial and Appl. Motors		
 	✓ Motion	✓ Discrete Automation and Electrification		✓ (only fractional motors)	✓ Electrification	<p>WEG's largest competitor within industrial applications, maintaining hardware focus despite software strategy. Growth-driven strategy forward, after a cycle centered in margin improvement.</p>
 	✓ Digital Industries & Innometrics	✓ Digital Industries				<p>Very diverse portfolio; strong in automation. Distancing itself from EEI by spinning-off Innometrics (will be a relevant peer for WEG).</p>
 					✓ Gas Services Grid Technology SGRE	<p>Siemens' energy-focused company, much comparable to GTD. Strong in T&D and wind energy with SGRE, with recent investments into T&D capacity expansion.</p>
 	✓ Power & Gas				✓ GE Vernova Renewable Energy	<p>After the split between 3 companies, GE Vernova is a fairer peer to compare to. Strong in GTD (renewable/power & gas), with highlights to its JV Prolec (T&D)</p>
 	✓ Industrial Systems Motion Control Systems			✓ Climate Solutions Commercial Systems		<p>Should remain a peer in Commercial & Appliance once WEG concludes Industrial Systems' acquisition (previously overlapped also in industrial motors & generators).</p>
 		✓	✓		✓	<p>Strong in automation, overlapping also in T&D. Focus ahead is to increase revenue share from Softwares & Systems.</p>
 	✓ Medium/Large Motors Automotive Motor-Related Products			✓ Medium/Large Motors Motor-Related Products		<p>Core presence in Automotive (including electric powertrain), with relevant overlap with WEG in various motor products. Naturally higher revenue share in APAC.</p>
 					✓ Green Energy & Mobility	<p>Relevant T&D player since the acquisition of ABB's Power Grids business, offering generators and alternators as well. Increasing focus on electric mobility</p>
 		✓ Intelligent Devices				<p>Pure-play automation and digitalization player. Offers a variety of software and services. Strong presence in North America</p>

Understanding EEI's and GTD's Competition Overlap

Breaking Down Competition Into WEG's Main Segments

Given EEI's and GTD's larger relevance to WEG's top-line (88% of revenues in 2023), we break down both segments into its main subcategories, **understanding competitors' overlap vs. WEG's revenue exposure.**

High-overlap:

- (i) **ABB** (relevant on industrial applications [industrial motors, drives], present on electromobility [recharging stations], and on generation-related products [sold T&D segment to Hitachi]); (ii) **Siemens** (present on all of WEG's EEI subcategories, although reducing exposure to motion-related and increasing focus on software-related applications); (iii) **Siemens Energy** (relevant player on GTD and facing issues on its wind generation business); (iv) **GE** (sold its industrial low-voltage business to Wolong, though present on automation and GTD-related products [T&D through its JV Prolec]).

Medium-overlap:

- (i) **Regal** (relevant exposure to industrial and commercial motors with a lower relevance on automation-related products and present on generation-related components); (ii) **Nidec** (industrial and commercial motors and relevant on electromobility); (iii) **Schneider** (one of WEG's main competitors in automation, with a lower relevance on T&D); (iv) **Hitachi** (important player on T&D and generators/alternators).

Niched peers:

- (i) **Wolong** (important industrial motor player after acquiring GE's operations); (ii) **Emerson** (automation); (iii) **Rockwell** (automation); (iv) **SEW** (gear boxes); (v) **EnelX** (recharging stations); (vi) **Descarbonize** (incl. Aldo in distributed solar generation in Brazil); (vii) **Intelbras** (solar distributed generation and smart housing); (viii) **Vestas** (wind generators); (ix) **Nordex** (wind generators); (x) **Toshiba** (mainly T&D).

Figure 4: EEI Competitive Landscape

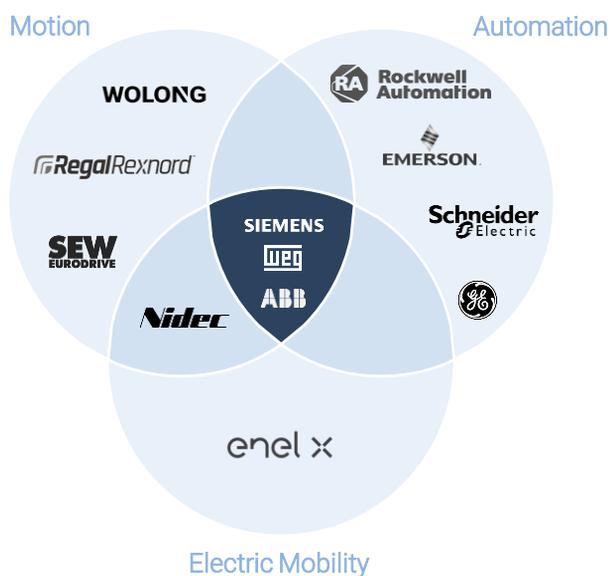
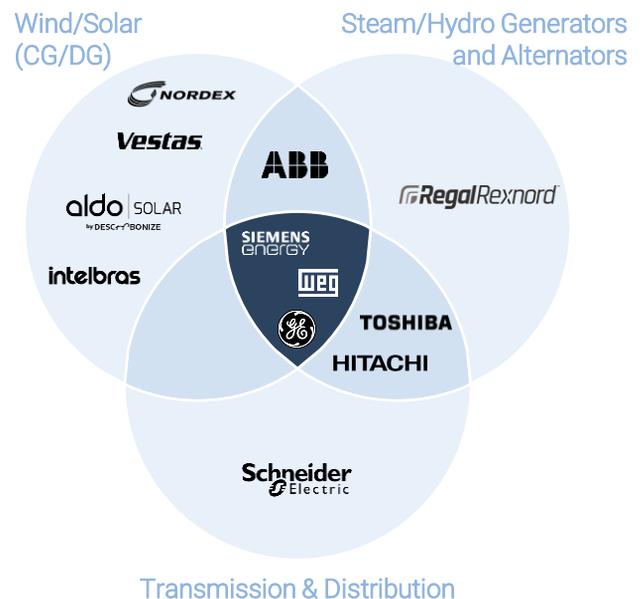


Figure 5: GTD Competitive Landscape



Understanding EEI's and GTD's Competition Overlap

Summarized Product Overlap with Competitors

Figure 6: Portfolio Overlap Between WEG & Peers

 Recent changes

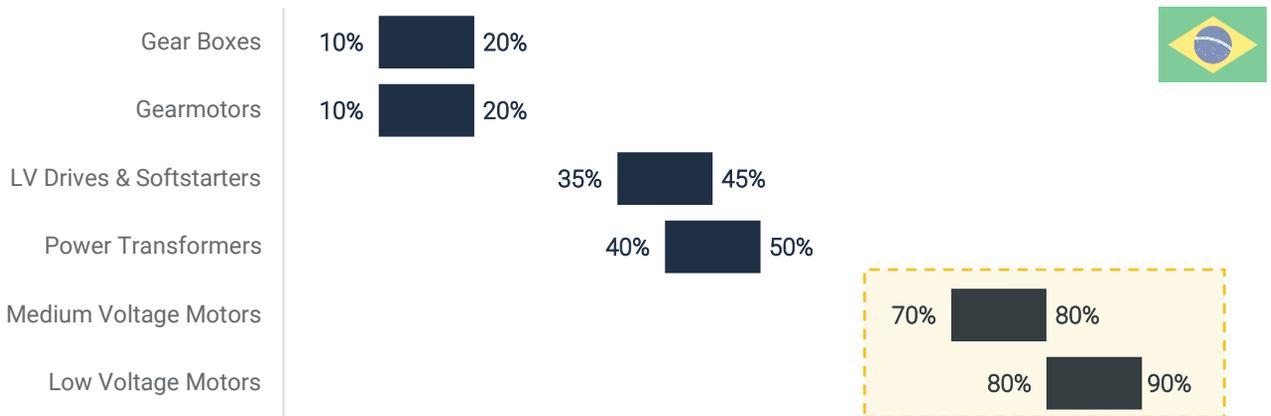
	WEG	GE	Siemens	ABB	Schneider	Regal Rexnord	Nidec	Hitachi	Rockwell		
EEI	LV Industrial Motors	✓	✗	✓	✓	✗	✗	✓	✗	✗	
	HV Industrial Motors	✓	✓	✓	✓	✗	✓	✓	✗	✗	
	Gearboxes	✓	✗	✓	✓	✗	✓	✗	✗	✗	
	Drives	✓	✓	✓	✓	✓	✓	✓	✗	✓	
	Controls	✓	✓	✓	✓	✓	✗	✓	✗	✓	
	Automation Panels	✓	✓	✓	✓	✓	✗	✓	✗	✓	
	E-houses	✓	✓	✓	✓	✓	✗	✗	✓	✓	
	BESS	✓	✓	✓	✓	✓	✗	✓	✓	✗	
	Electric Mobility Solutions	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Digital Solutions for Industry 4.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GTD	Generators/ Alternators	✓	✓	✓	✓	✗	✗	✗	✓	✗	
	Thermal	✓	✓	✓	✓	✗	✗	✗	✓	✗	
	Hydraulic Turbines	✓	✓	✓	✓	✗	✗	✗	✓	✗	
	Wind Turbines	✓	✓	✓	✗	✗	✗	✗	✗	✗	
	Solar Generation	✓	✓	✓	✓	✗	✗	✗	✓	✗	
	Power Transformer	✓	✓	✓	✗	✓	✗	✗	✓	✗	
	Dry Transformer	✓	✓	✓	✗	✓	✗	✗	✓	✗	
Commercial & Appliance	Distrib. Transformer	✓	✓	✓	✗	✓	✗	✗	✓	✗	
	Substations	✓	✓	✓	✗	✗	✗	✗	✓	✗	
	Fractional	✓	✗	✗	✓	✗	✓	✓	✗	✗	
	Appliance	✓	✗	✗	✗	✗	✓	✓	✗	✗	
	Aerospace	Commercial engines and services	✗	✓	✗	✗	✗	✗	✗	✗	✗
		Military	✗	✓	✗	✗	✗	✗	✗	✗	✗
Healthcare	Healthcare systems	✗	✓	✓	✗	✗	✗	✗	✗	✗	
	Pharmaceutical diagnosis	✗	✓	✓	✗	✗	✗	✗	✗	✗	

Market Share Overview

Revisiting WEG’s Participation in Each Market

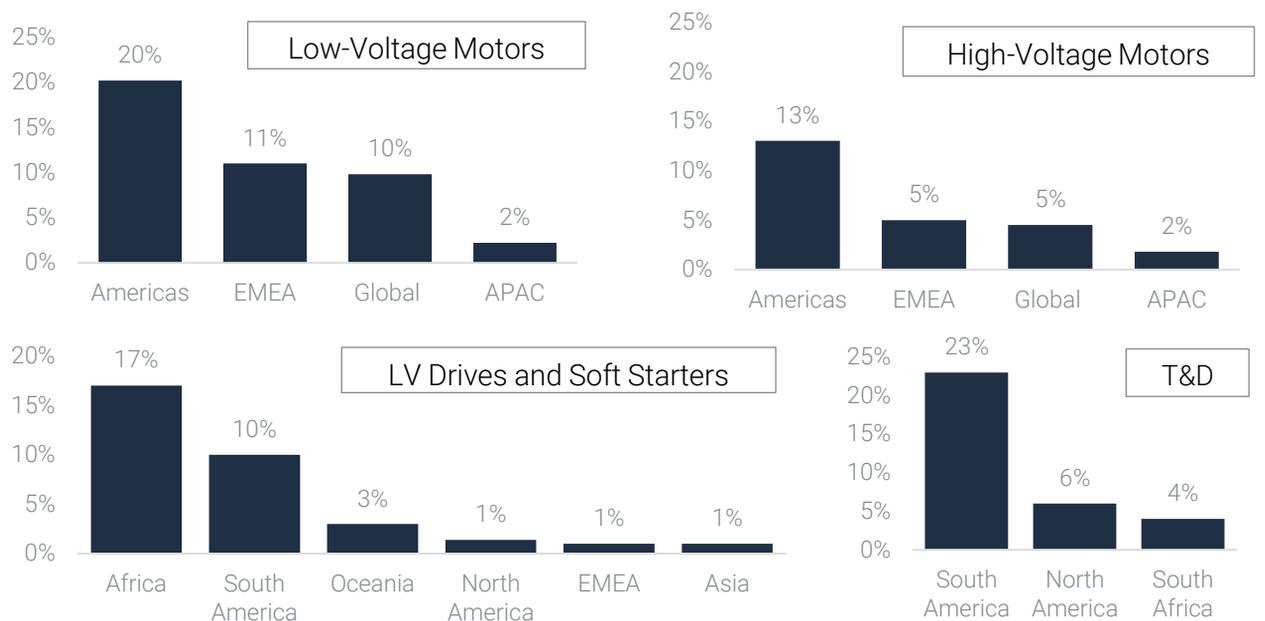
Since we first starting covering WEG, we have always seen its expressive domestic market share in core-products (with 70-90% participation in LV/MV motors) as a fundamental competitive advantage. As illustrated by Figure 7 below, we see space for market share gains in the domestic market in Transformers (which is being addressed by the company’s recent investment announced in Betim (MG)), as well as in Motion Drive, with gearboxes, drives and soft starters.

Figure 7: WEG’s Market Share in Brazil per Category¹



We also note WEG’s movements to expand share in external markets. While (i) [recent announcements for transformers production capacity expansion](#) should drive GTD market gains in North America (last data was a ~6% share in T&D); (ii) motion drive and automation share in external market is increasing backed by organic investments and recent acquisitions such as Gefran and (soon to be closed) Regal’s industrial systems business.

Figures 8-11: WEG Market Share per Region and Category

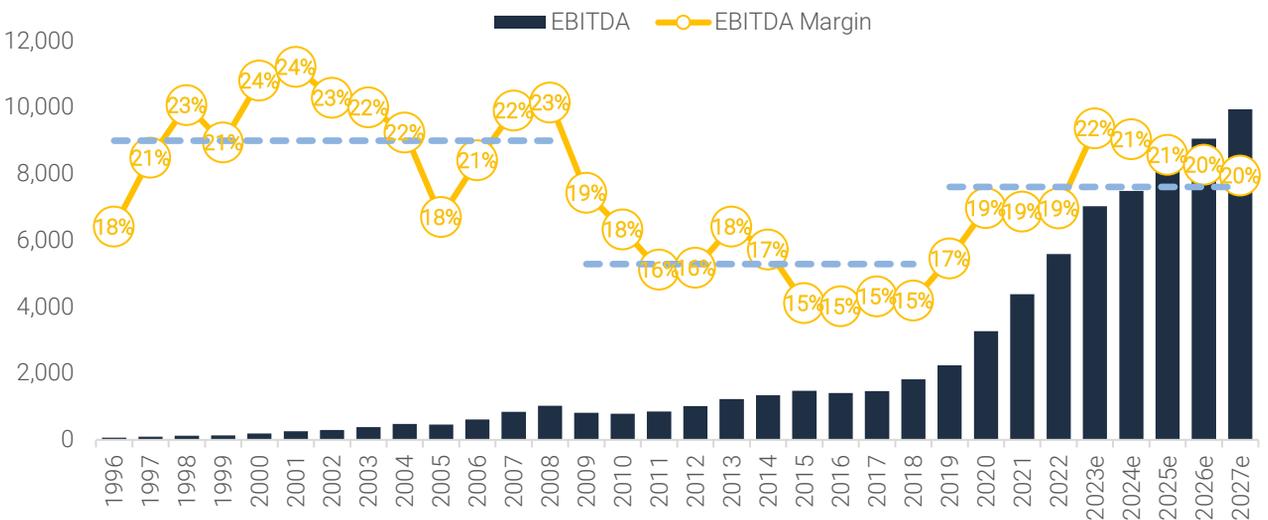


Evaluating Profitability Trends

EEI and GTD: Different Drivers, Different Cycles

For competitive reasons, WEG has never disclosed profitability figures per segment or product types – and the exclusive-consolidated view leaves us (and the market) intrigued. While numerous factors impact WEG’s margin levels (including FX changes, product mix, geography mix and overall demand), in this exercise we attempt to understand profitability trends looking at WEG’s competitors.

Figure 12: WEG Long-Term Historical EBITDA Margin



We looked back a few years into peers’ margins, in the specific segments where they are most comparable to WEG’s EEI or GTD. In this sense, we note different cycles for each of the baskets (such as EEI’s strong margin gains in 2021-22), with WEG’s consolidated level showing a less volatile profile, suggesting its margin resilience could be favored by the overlap of both segments with different cyclical behaviors.

Figure 13: EEI and GTD Peers Historical Margin Gain (Loss)



We note limitations to the analysis, including (i) the companies’ different levels of verticalization and globalization (respectively impacting positively/negatively WEG’s margin vs. peers); and (ii) its differencing reporting preferences (as the peers opt for EBIT, EBITA, EBITDA or net margin as their main profitability ratio). Even so, we believe the comparison provides a good “food for thought”.

Evaluating Profitability Trends

Breaking Down WEG’s Peers Margins

Figure 14: EEI Peers and Respective Segments

Company	Chart Legend	Segment	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
WEG		Consolidated	15%	15%	15%	15%	17%	19%	19%	19%	22%	
ABB		Motion	15%	16%	13%	16%	17%	17%	17%	17%	19%	
ABB		Electrification	12%	12%	16%	15%	12%	8%	11%	11%	15%	
Siemens		Digital Industries	14%	16%	17%	19%	18%	21%	22%	22%	24%	
GE		Power & Gas	17%	12%	6%	-4%	2%	2%	4%	7%	6%	
Regal		Industrial Systems	14%	14%	15%	22%	28%	9%	8%	12%	7%	
Regal		Motion Control Systems						10%	12%	24%	24%	
Nidec		Appliances, commercial and industrial			9%	8%	7%	6%	9%	10%	8%	
Rockwell		Intelligent Devices	29%	26%	27%	21%	21%	20%	21%	20%	20%	

Figure 15: EEI Peers and Respective Segments (Margin Gain/ Loss YoY)

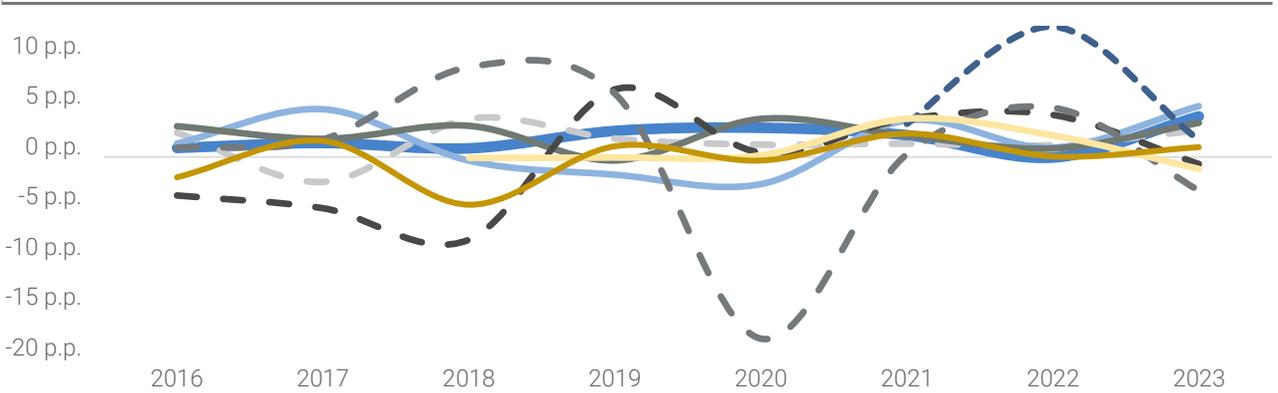
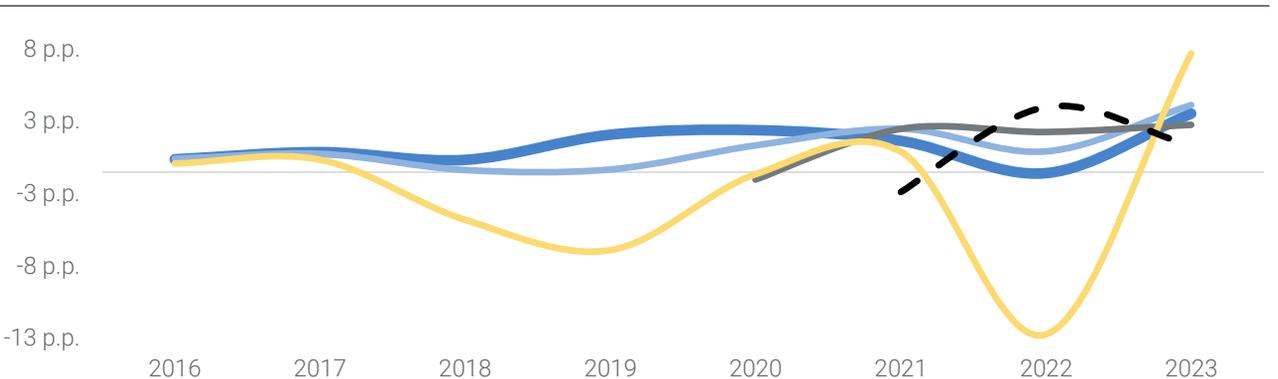


Figure 16: GTD Peers and Respective Segments

Company	Chart Legend	Segment	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
WEG		Consolidated	15%	15%	15%	15%	17%	19%	20%	19%	22%	
ABB		Electrification	15%	15%	15%	14%	13%	14%	16%	17%	20%	
Siemens Energy		Consolidated					4%	3%	5%	6%	9%	
GE		Vernova (Renewables)	7%	6%	6%	2%	-4%	-5%	-5%	-17%	-10%	
Hitachi		Green Energy & Mobility						3%	1%	5%	5%	

Figure 17: GTD Peers and Respective Segments (Margin Gain/ Loss YoY)

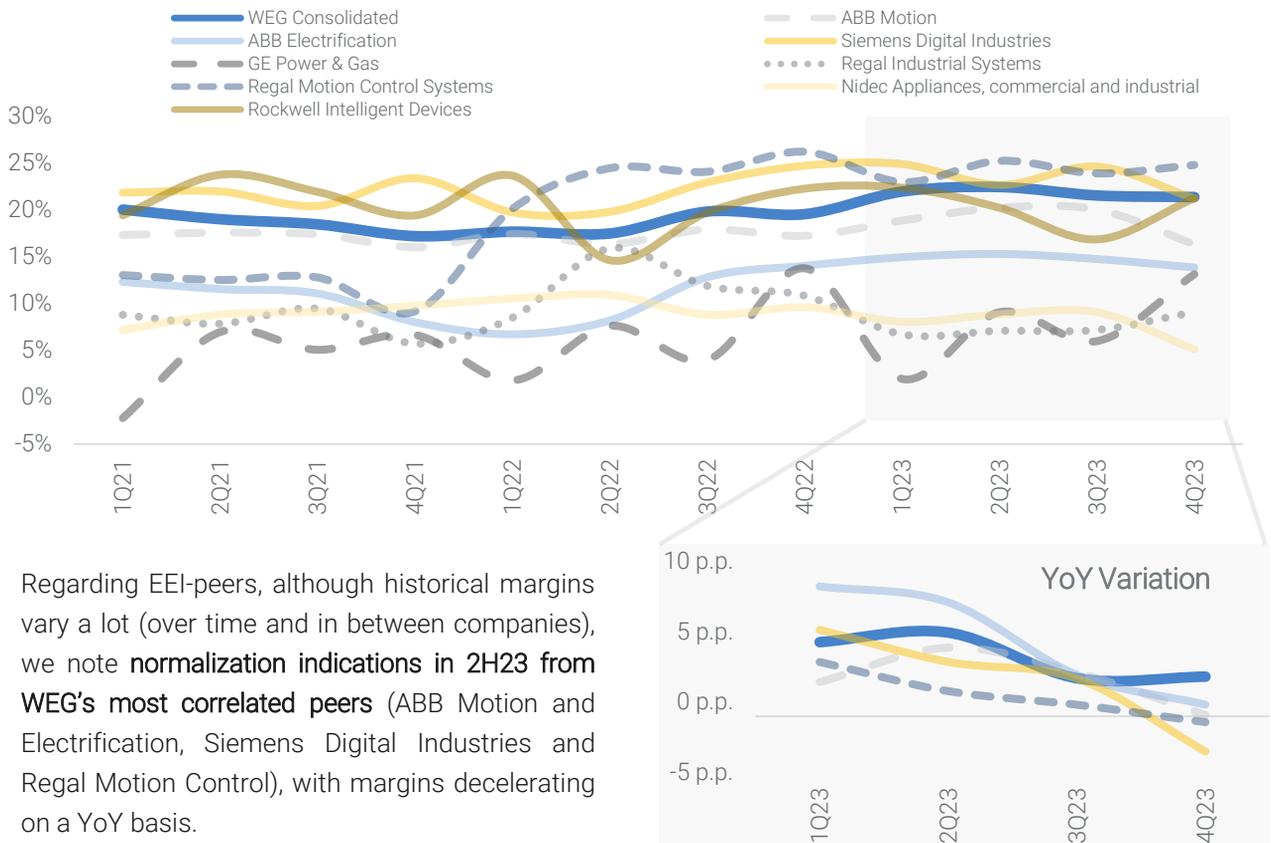


Evaluating Profitability Trends

Early Indications of EEI Margins Normalization

We prefer to look at profitability levels in the long-term, given that quarterly figures can be impacted by seasonality and one-off effects. Even so, we see some value in looking at the companies margins in the short-term, aiming to find early indications from cycle changes.

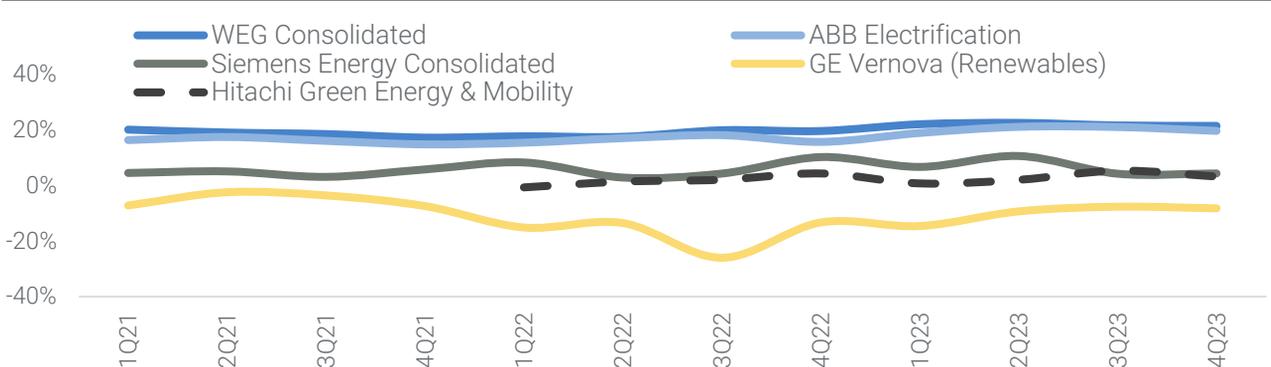
Figures 18-19: EEI Peers Quarterly Margins



Regarding EEI-peers, although historical margins vary a lot (over time and in between companies), we note **normalization indications in 2H23 from WEG's most correlated peers** (ABB Motion and Electrification, Siemens Digital Industries and Regal Motion Control), with margins decelerating on a YoY basis.

We see this reinforcing our outlook for 2024, as we expect a profitability pressure on industrial-related short-cycle products to reduce WEG's margin standpoint, although at a slower pace given its exposure to GTD's positive long-cycle momentum (particularly T&D-exposed products).

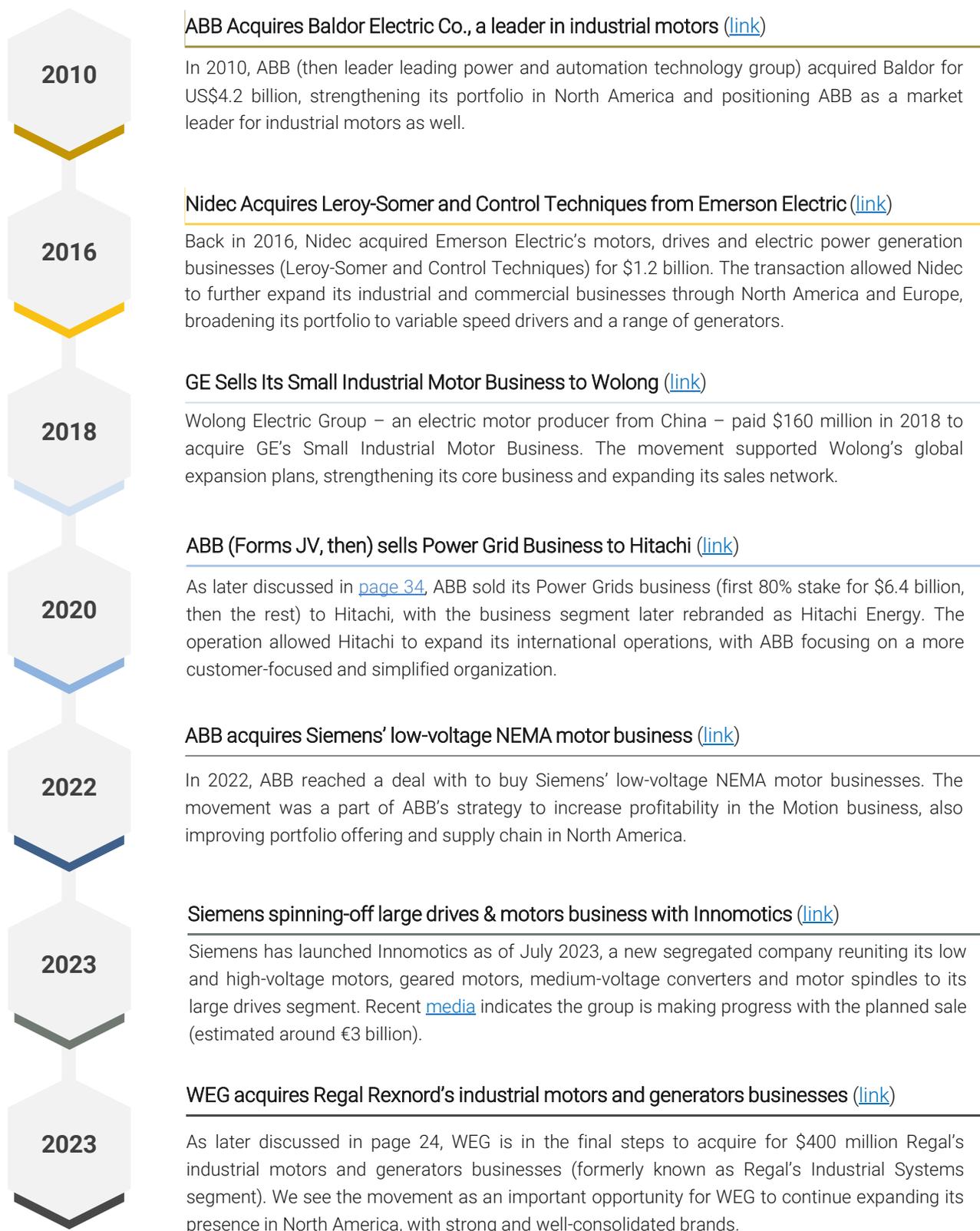
Figure 20: GTD Peers Quarterly Margins



An M&A Throwback

Inorganic Movements Were Essential to Enhance Companies' Portfolios

Figure 21: Recent M&A History



What Are the Peers Talking About?

Industry's Hot Topics



Nearshoring

We see nearshoring as one of the most heated trends in the industrial world last year, with manufacturers looking for alternatives after severe supply-chain disruptions, components shortages and delays following the COVID-19 pandemic and other geopolitical events. In this scenario, Mexico is one of the most benefitted markets, especially after Biden's incentives such as the Inflation Reduction Act. WEG's investments are directly linked to this trend – on the one hand, there is Regal's acquisition, where the company adds facilities in India, China, Europe and North America (close to key clients); on the other hand, there is the heavy organic investments into expanding transformers' production capacity in Mexico, to attend increasing demand from the U.S..



Decarbonization

Evidently, the search for clean energy and more efficient equipment is a direct demand driver for WEG and most of its peers. According to United State's Department of Energy, there are 4 pillars for industry decarbonization: (i) energy efficiency; (ii) industrial electrification; (iii) low-carbon fuels, feedstocks and energy sources; and (iv) carbon capture, utilization and storage. The pillars go through many of WEG's product lines – from wind, solar and hydro generation in GTD, to energy efficient motors and Battery Energy Storage Systems in EEI. While the changes should be profitable in the long-term, one of the main challenges is the amount of investments required in the short-term to decarbonize different industries (with [Columbia](#) estimating \$275 trillion up until 2050).



Electric Mobility

The transition to electric mobility has helped broaden the portfolio of many electric-electronic industrial manufacturers. Some companies such as Nidec have been focused on the automotive sector for long, while WEG and other peers are slowly entering the market with products such as electric powertrains and, especially, EV charging solutions. For the transition to happen, expressive investments into grid technology are necessary, with grid expansion and technology to allow for a reliable electricity flow – the [International Energy Agency \(IEA\)](#) forecasts annual global investments into grid technology should double by 2030 to meet with Paris Agreement's goals, implying increasing demand for WEG and peers' transmission and distribution solutions as well.



Digitalization

Industry digitalization has been a megatrend for a while and should remain looking ahead, with constantly emerging new technologies. This breaks down into different solutions, such as Artificial Intelligence (AI), Internet of Things (IoT), Big Data, Augmented and Virtual Reality, among others to come. We see some of WEG's peers (such as Schneider) slowly distancing themselves from hardware manufacturers and focusing on Systems, Softwares & Services, benefitted by abovementioned drivers. In terms of geography, we see Brazil's industry as an open sea of opportunities for Digital Transformation services, with companies lagging in technology vs. other regions – in this sense, [Brasscom](#) (sector association) forecast R\$666 million investments by 2026E.

Company Overview

A Bottom-Up Approach

WEG

Driving Efficiency and Sustainability



Founded in 1961, WEG is a global electric-electronic equipment company, operating mainly in the capital goods sector with solutions in electric machines, automation and paints for several sectors, including infrastructure, steel, pulp and paper, oil and gas, mining, among many others. WEG stands out in innovation by constantly developing solutions to meet the major trends in energy efficiency, renewable energy and electric mobility. With manufacturing units in 12 countries and present in more than 135 countries, the company has more than 36,900 employees worldwide, relying on a highly verticalized business model as a competitive advantage.

Figure 22: Historical Revenues and EBITDA margin

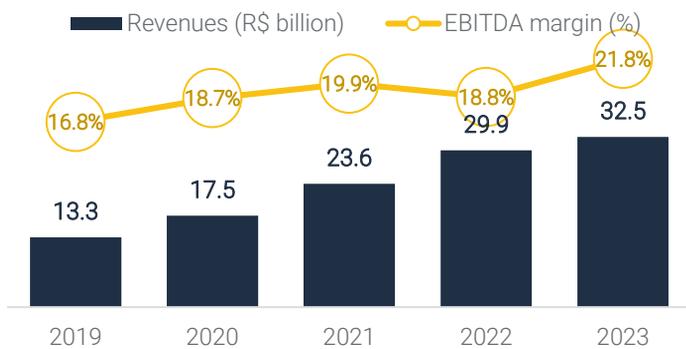


Figure 23: Revenue Breakdown (Segment)

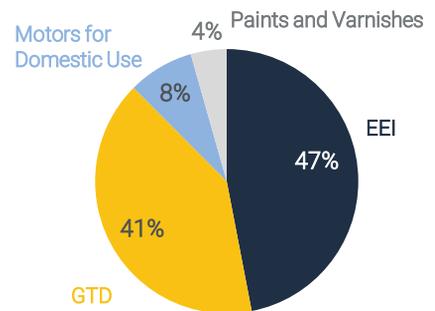


Figure 24: Revenue Breakdown (Geography)

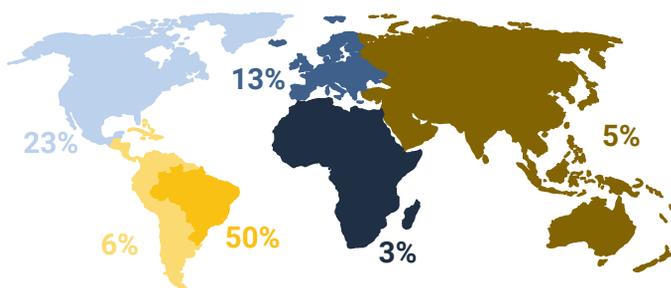


Figure 25: Consensus Estimates

WEG	2023	2024
Consensus		
Net Revenues	32,526	37,479
EBITDA	7,028	7,581
EBITDA margin	21.6%	20.2%
EBIT	6,406	6,801
EBIT margin	19.7%	18.1%
Net Income	5,378	5,476
Net Margin	16.5%	14.6%

Figure 26: WEG's Revenue Breakdown vs. Internal Operating Units

	Industrial Motors	Appliance and Comm. Motors	Automation	Digital & Systems	Energy	T&D	Paints and Varnishes
EEI	Industrial Motors		Drives, softstarters	Software and systems	High-voltage motors		
GTD			Solar kits	Software and systems	Wind/steam generators and others	Trafos & others	
Appliance and Comm. Motors		Commercial Motors					
Paints and Varnishes							Paints and Varnishes

WEG

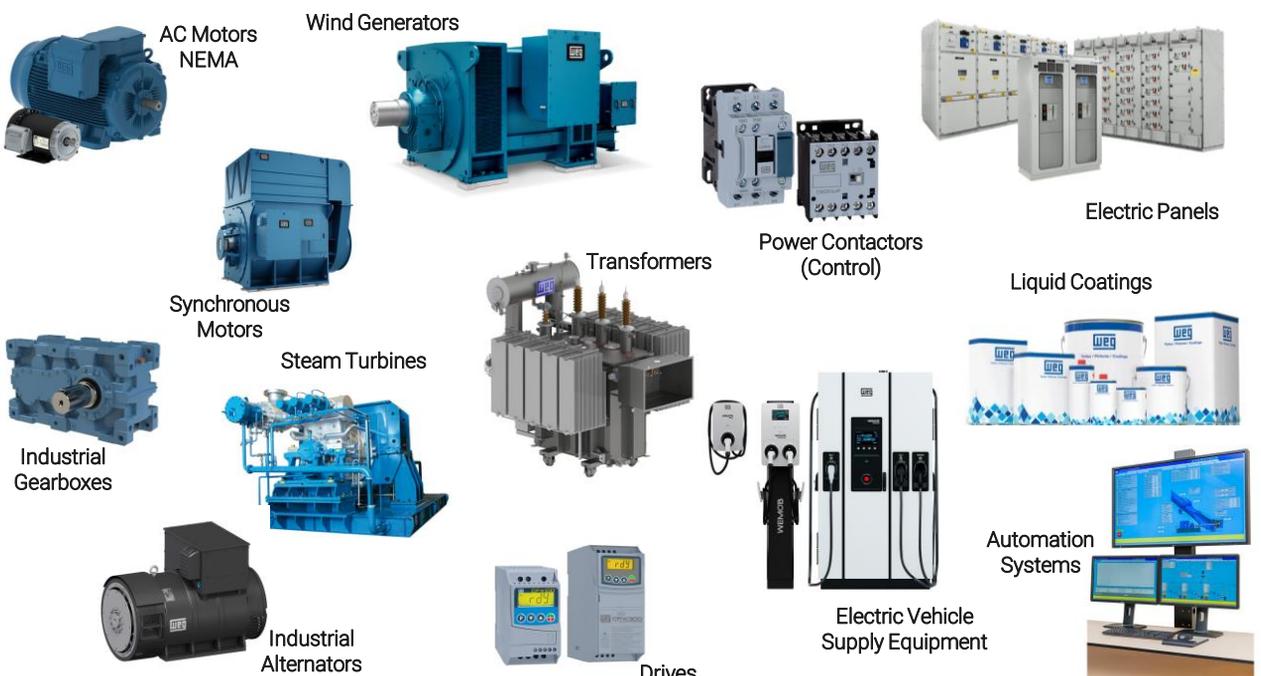
Product Overview



Figure 27: WEG Product Overview by Segment

WEG	Industrial Electro-Electronic & Commercial and Appliances Motors			GTD	Paints and Varnishes
	Motion Drive	Electrification & Automation	Digitalization		
	Industrial Motors	Command, control and protection of electrical circuits	IoT Platform	Wind Turbines	Liquid Coatings
	Gearboxes	Electrification, data acquisition, supervision and control systems	Connectivity	Steam Turbines	Powder Coatings
	Commercial and Appliance Motors	Machinery Automation	Artificial Intelligence	Hydraulic Turbines	Impregnation Varnishes
	Drives and soft-starters	Building electrification	Edge devices	Generators	
	Powertrain for electric traction	Energy Storage	Gateways	Alternators	
	Services	Recharge Stations - EV	Condition monitoring	Services	
			MES	Transformers and Reactors	
			IoT Software	Substations	
				Solar Generation	

Figure 28: WEG Product Examples



WEG

M&A History



Figure 29: WEG Acquisitions History

Company	Date	Location	Purpose	Company Description
Regal Rexnord's Businesses	TBD	Several ¹	Geographic Exposure/Scale	Motors and generators businesses (Regal's Industrial Systems segment)
Motion Control (Gefran)	Aug-22	Italy	Geographic Exposure	Drives and other equipment
Balteau	Sep-21	Brazil (MG)	Diversification	Transformers for instruments and measurement sets
TSEA	Oct-20	Brazil (MG)	Scale	Large power transformers producer
BirminD (51%)	Jul-20	Brazil (SP)	Technology	Start-up focused on A.I. for <i>Industrial Analytics</i>
V2COM (51%)	Oct-19	Brazil (SP)	Technology	IoT and telemetering solution for power and smart grid systems
PPI-Multitask (51%)	Sep-19	Brazil (SP)	Technology	Industrial automation systems integration, MES, IoT
MVISIA	Jun-19	Brazil (SP)	Technology	A.I. solutions applied for computer vision
NPS (ESS)	Feb-19	U.S.A. (Vermont)	Diversification	Development and manufacturing of energy storage systems
Geremia	Feb-19	Brazil (RS)	Scale	Gear boxes and gearmotors manufacturer
CG Power Systems	Jun-17	U.S.A. (Missouri)	Geographic Exposure	Assembly and commissioning services of power transformers
NPS (Wind Turbines)	Oct-16	U.S.A. (Vermont)	Diversification	Designer and manufacturer of wind turbines
TGM	Dec-16	Brazil (SP)	Scale/ Diversification	Gear boxes, gearmotors and steam turbines manufacturer
Bluffton Motor Works	Mar-16	U.S.A. (Indiana)	Geographic Exposure	Manufacturing fractional electric motors up to 5 HP
Autrial	Sep-15	Spain (Valencia)	Diversification	Manufacturing of electrical panels for industrial equipments
Suntec	May-15	Colombia (Medellin)	Geographic Exposure	Oil and Dry transformer manufacturer
TSS	Apr-15	South Africa (Gauteng)	Scale/Diversification	High voltage transformers, mini substations, switchgear manufacturer
KATT	Dec-14	Germany (Homburg)	Scale	Electric motors manufacturer
FTC Energy Group	Oct-14	Colombia (Bogotá)	Geographic Exposure/ Diversification	Manufactures and assembles electrical panels for process automation
Efacec	Sep-14	Brazil (PE)	Scale	Maintenance services for power transformers, electric motors, etc.
Machine Master	Mar-14	China	Geographic Exposure/ Diversification	White goods electric motors and components manufacturer
Württembergische	Feb-14	Germany	Geographic Exposure/Scale	Electric motors and Gearbox manufacturer
Hawker Siddeley Transf.	Sep-13	South Africa	Geographic Exposure	Transformer and substation manufacturing
Paumar	Dec-12	Brazil (SP)	Diversification	Manufacturing coatings, varnishes, enamels and lacquers
Injetel	Oct-12	Brazil (PR)	Scale	Manufacturing power switches, power outlets and plugs
Stardur	Jul-12	Brazil (SP)	Scale	Paintings producer for transformers
EM	Nov-11	U.S.A (MN)	Geographic Exposure/Scale	Designs and Manufactures motors, generators and brushless exciters
Watt Drive	Nov-11	Austria (Vienna)	Geographic Exposure/Scale	Designs and Manufactures gearboxes, gear motors, drives and control systems
Cestari	Oct-11	Brazil (SP)	Scale	Development, manufacturing and distribution of gearboxes and gear motors
Pulverlux	May-11	Argentina	Scale	Manufacturing powder paints
EquisulGPL	Dec-10	Brazil (SC)	Diversification	Developing and manufacturing uninterruptable power supply
Instrutech	Jun-10	Brazil (SP)	Diversification	Developing and manufacturing electronic sensors for automations
Zest	May-10	South Africa	Geographic Exposure/Scale	Assembly of industrial electrical panels and electrical commissioning services provider
Voltran	May-10	Mexico	Scale	Transformer manufacturing

ABB

Robotics Pioneer, Hardware Stronghold



ABB was founded in 1988 after the merger of two major electrical equipment manufacturers from Sweden and Switzerland. In 2010, the company acquired Baldor Electric, strengthening its position in the industrial motors business. Today, the Zurich-headquartered multinational company has expanded into robotics and automation technology as well. ABB operates through the following segments: (i) Electrification (products “from substation to socket”); (ii) Motion (motors, generators, drives and services); (iii) Process Automation (services for process and hybrid industries); and (iv) Robotics & Discrete Automation (machine and factory automation systems). ABB’s customers are mostly utilities, industry and transport and infrastructure.

Figure 30: Historical Revenues and EBITDA margin

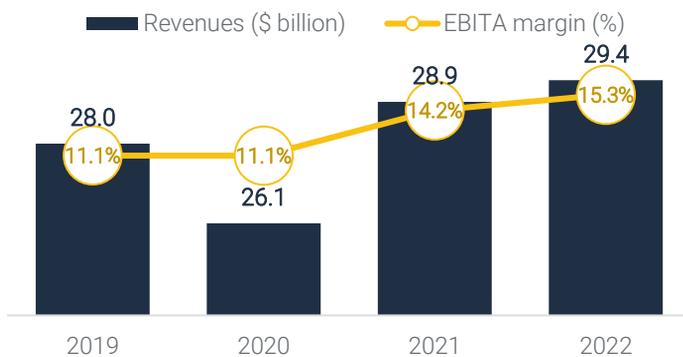


Figure 31: Revenue Breakdown (Segment)

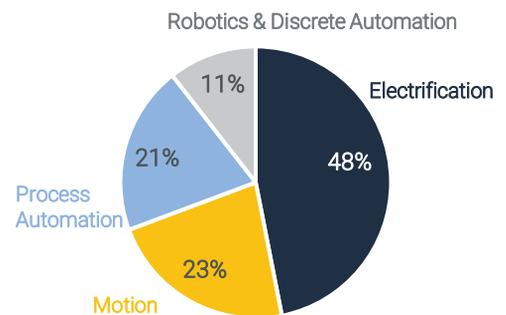


Figure 32: Revenue Breakdown (Geography)

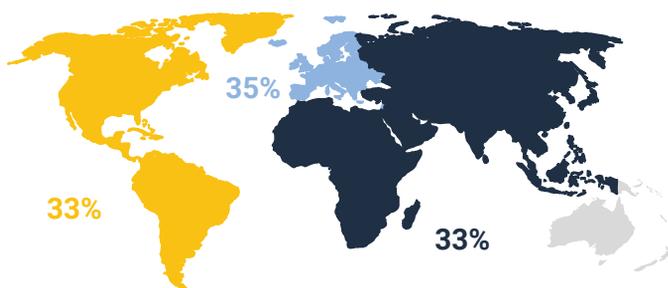


Figure 33: Consensus Estimates

ABB	2023	2024
	Consensus	
Net Revenues	32,006	33,354
EBITDA	5,906	6,165
EBITDA margin	18.5%	18.5%
EBIT	5,118	5,312
EBIT margin	16.0%	15.9%
Net Income	3,709	3,817
Net Margin	11.6%	11.4%

How does it compete against WEG? Out of all companies analyzed in this report, we believe ABB has the largest portfolio overlap with WEG – most of its electrification, motion and discrete automation portfolio, as autonomous robots in the Robotics division (although the latter as still incipient for WEG). In Electrification, ABB has a comprehensive electrical components portfolio (with limited exposure to T&D after selling its unit to Hitachi), while also having solutions for EV vehicle charging. In motion, ABB has a variety of low to high voltage motors, drives and traction solutions.

What are ABB’s main growth avenues? As discussed by the company during its last investor day, future growth should be accelerated by electrification and automation mega trends. For medium-voltage products, ABB expects growth to be driven by datacenters, EV charging and battery manufacturing, while Artificial Intelligence should play an important role in both internal improvements, as well as external projects (backing Robotics & Discrete Automation future growth).

ABB

Product Overview



Figure 34: ABB Product Overview by Segment

WEG Overlap

	Electrification	Motion	Process Automation	Robotics & Discrete Automation	
				Robotics	Discrete Automation
ABB	Medium-voltage electrical components	Motors	ABB Ability™ Distributed Control System (DCS), System 800xA	Robots	Programmable logical controllers
	Low-voltage electrical components	Generators	Symphony Plus	Autonomous mobile robots	Industrial PCs
	Switchgear	Drives	Compact Product Suite	Robotics autonomous cells	Servo motion
	Digital devices	Traction converters	ABB Ability Advanced Digital Services	Smart systems	Industrial transport systems
	Enclosures		ABB Care	Field services	Machine vision
	Circuit breakers		ABB Ability™ Genix Industrial Analytics and Artificial Intelligence Suite	Spare parts	Software for engineering
	Power conversion products			Digital services	Optimization
	Charging solutions for EVs			Engineering	
			Operations software		

Figure 35: ABB Acquisitions and Divestments

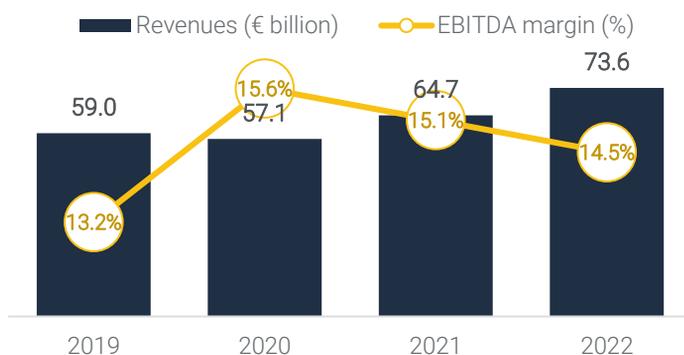
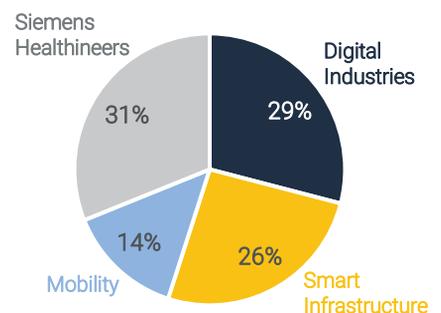
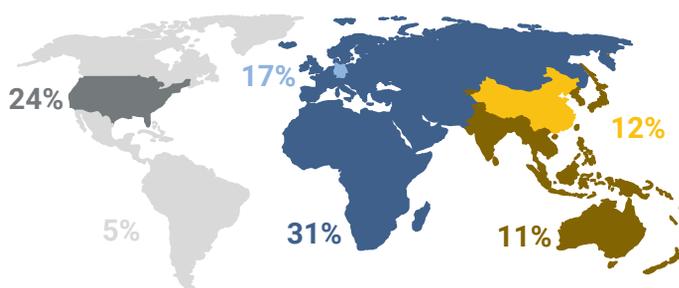
Date	Transaction
Jan-15	- Divestment of Service Business (to Nordic Capital)
Apr-15	+ Acquisition of Gomtec, expanding robotics portfolio
Aug-15	- Divestment of U.S. cable factory
May-16	+ Acquisition of SVIA automation solutions
Feb-17	+ Acquisition of digital offering in 3D inspection technology
Mar-17	- Divestment of cable business (to NKT Cables)
Jul-17	+ Acquisition of KEYMILE's communication networks (digital grid & software)
Sep-17	+ Acquisition of B&R (industrial automation)
Jul-18	+ Acquisition of GE Industrial Solutions (electrification solutions)
Jul-18	+ Acquisition of intrion (logistics automation)
Dec-19	- Divest two Electrification JVs
Mar-20	- Exit of solar inverter business
Mar-20	+ Add of Cyloon Controls to portfolio (smart buildings)
Mar-20	+ Acquisition of chinese Chargedot (EV charging)
Jul-20	- Divestment of Grids to Hitachi
Oct-20	+ Acquisition of Codian (robotics)
Jul-21	+ Acquisition of ATSI Mobile Robotics Group
Nov-21	- Divestment of Mechanical Power Transmission division
Jan-22	+ Controlling interest in InCharge Energy (EV charging)
May-22	+ Controlling interest in Numodity
Sep-22	+ Acquisition of PowerTech Converter
Oct-22	- Spin-off of Acelleron turbocharging business
Dec-22	- Sales of remaining stake in Hitachi Energy
May-23	+ Acquisition of Siemens' low voltage NEMA motor business
Jun-23	+ Acquisition of Eve Systems (smart home)
Jan-23	- Divestment of Power Conversion (sales to AcBel Polytech Inc.)

Siemens

Secular History and Diverse Portfolio

SIEMENS

Siemens is a multinational technology group, listed and headquartered in Munich with around 311k employees. The group is Europe's largest industrial manufacturing company, and its products are present in nearly all countries of the world. Siemens acts in (i) industry automation and digitalization; (ii) intelligent infrastructure for buildings and distributed energy systems; (iii) mobility solutions (especially for rail transport); and (iv) medical technology and digital healthcare services, through both its industrial business and portfolio companies. In 2020, it was approved the spin-off of Siemens Energy, an energy company formed by its previous Power and Gas division and Siemens Gamesa Renewable Energy.

Figure 36: Historical Revenues and EBITDA Margin

Figure 37: Revenue Breakdown (Segment)

Figure 38: Revenue Breakdown (Geography)

Figure 39: Consensus Estimates

Siemens	2023	2024
	Consensus	
Net Revenues	77,579	81,285
EBITDA	13,774	14,888
EBITDA margin	17.8%	18.3%
EBIT	10,286	11,607
EBIT margin	13.3%	14.3%
Net Income	7,958	8,288
Net Margin	10.3%	10.2%

How does it compete against WEG? We note its very broad portfolio (e.g.: including the healthcare industry) as one of the main differences of Siemens' strategy when compared to WEG's, with product similarities limited to its Digital Industries segment (which includes drives, converters, automation systems, with software products making up for 24% of the segment's sales in FY2022) and the soon to be launched Innomotics subsidiary (combining different motors from Digital Industries with large drive applications).

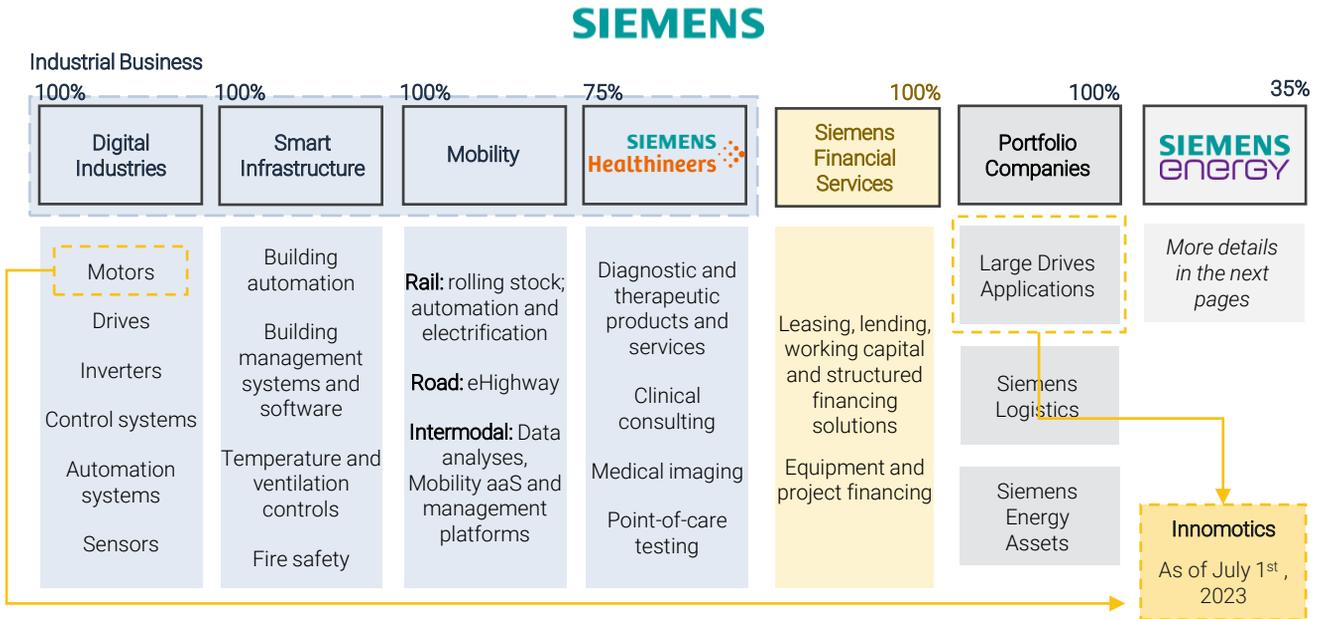
What are Siemens' main growth avenues? Siemens explores a few growth opportunities in its latest annual report – of which we highlight (i) the transition towards a low-carbon economy and a favorable political and regulatory environment (including government initiatives and subsidies); (ii) value creation through innovation (as in automation, AI, edge computing and digital twin); and (iii) M&As, partnerships, divestments and other inorganic ways to improve its portfolio;

Siemens

Product Overview



Figure 40: Siemens Corporate Structure and Product Overview



Understanding Innomotics, Siemens' most recent spin-off

After the creation of Siemens Energy in 2020, the group has recently announced another spin-off: as of July 1st, 2023, the **Large Drives Applications** portfolio company and a part of digital industries' portfolio started operating as **Innomotics**, a legally separate company, fully owned by the Siemens group.

The NewCo provides a full portfolio of low- to high-voltage motors, geared motors, medium-voltage converters and motor spindles, while Siemens sees strong demand potential from energy efficiency and consumption trends. We see Siemens strengthening its positioning in one of the segments in which it competes directly with WEG, potentially creating a fiercer competitive environment in external markets (in Brazil, Siemens maintains a low exposure, while WEG holds its leading market share position for industrial motors).

Figure 41: Siemens Product Examples – Digital Industries & Innomotics which are most comparable to WEG



Siemens Energy

A Global Leader in Energy Technology



Siemens Energy was founded in 2020 from a spin-off of Siemens' Power and Gas business and Siemens Gamesa Renewable Energy – a company fully focused on energy-related technologies and services. Siemens Energy recently introduced a new organizational structure, with its Gas and Power segment now divided into (i) Gas Services (products related to gas and large steam turbines, as well as heat applications); (ii) Grid Technologies (Generation and Transmission, acting in both new connections and grid update); and (iii) Transformation of Industry (reducing industries' energy consumption and CO2 emissions). With Siemens Gamesa Renewable Energy (SGRE), the company also provides wind energy technologies and services.

Figure 42: Historical Revenues and EBITDA margin

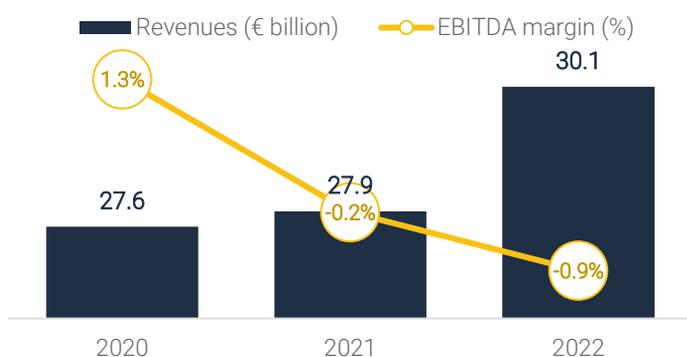


Figure 43: Revenue Breakdown (Segment)

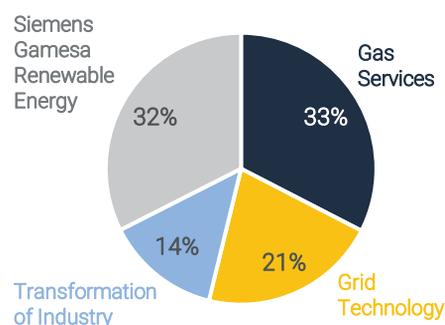


Figure 44: Revenue Breakdown (Geography)

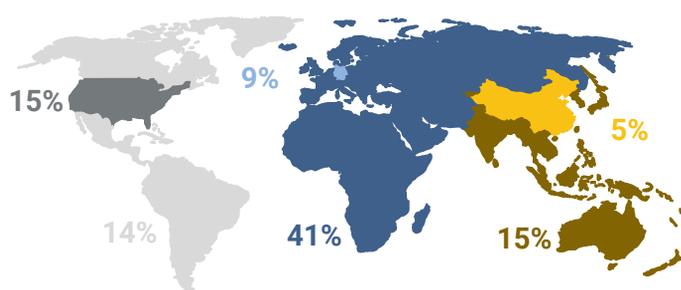


Figure 45: Consensus Estimates

Siemens Energy	2023	2024
	Consensus	
Net Revenues	31,384	33,021
EBITDA	-1,626	1,533
EBITDA margin	-5.2%	4.6%
EBIT	-2,250	-102
EBIT margin	-7.2%	-0.3%
Net Income	-3,849	73
Net Margin	-12.3%	0.2%

How does it compete against WEG? Siemens Energy's portfolio is similar to WEG's GTD division, ranging from low and zero-emission power generation, to transport and storage of energy. We note differences between Siemens' Energy's Transformation of Industries services (for example air separation and water solutions) which WEG doesn't focus on. Siemens Energy is one of the world's largest suppliers of wind turbines, directly competing with WEG in Brazil in a current challenging market (although WEG positions itself as a niched player in this market, less exposed to the fierce competitive landscape of this segment).

What are Siemens Energy's main growth avenues? Siemens Energy's opportunities are mostly related to decarbonization and sustainability trends. We highlight: (i) portfolio expansion into more decarbonization products (such as H2 production, decarbonized heat and energy storage), (ii) growth in B2G (business-to-government) and G2G (government-to-government) markets, in the reconstruction of energy infrastructure; and (iii) digital growth, as well as (iv) potential addition synergies from the SGRE integration.

Siemens Energy

Product Overview



Figure 46: Siemens Energy Product Overview by Segment

WEG Overlap

	Power and Gas				Siemens Gamesa Renewable Energy
	Gas Services	Grid Technology		Transformation of Industry	
Siemens Energy	Gas turbines	Battery energy storage systems	Instrument transformers	Air separation	Onshore wind turbines
	Steam turbines	Blue high-voltage products	MVDC Plus	Compressors and expansion turbines	Offshore wind turbines
	Generators	Blushings	Offshore grid connections	H2 solutions	Wind services
	Power plant solutions	Circuit breakers	Sensproducts	Process & safety consulting	
	Distributed control system	Coils	Solutions for overhead lines	Recording and evaluation of emissions	
	Wind power	Disconnectors and earthing switches	Surge arresters	Water solutions	
	Small hydro power	Flexible AC transmission systems	Transformers		
	Heat pumps	Gas-insulated switchgear	Service		
		HV substations and solutions	Grid automation and consulting		

Figure 47: Looking back into Siemens Energy's transformational changes

<div style="background-color: #FFC000; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2017</div>	<p>Gamesa merger</p> <p>In 2017, Siemens concluded the merger of its wind power business with Spanish group Gamesa, forming Siemens Gamesa Renewable Energy, by the time the world's largest wind generators' provider. The companies had complementary portfolios, with Siemens' stronger positioning in North America and Europe and Gamesa's relevance in Latin America, China and India.</p>
<div style="background-color: #FFC000; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2020</div>	<p>Spin-off</p> <p>Later in 2020, Siemens officialized the spin-off of Siemens Energy, in which the parent company holds a 35% share, aiming to create an "independent leader in the energy business with a strong brand and the most comprehensive offering in the energy sector".</p>
<div style="background-color: #FFC000; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2023</div>	<p>SGRE delisting</p> <p>While SE's Power and Gas segments have been performing well, SGRE's results were much pressured in 2022, as the wind industry faced cost inflation and supply chain challenges. In this sense, in May'23 Siemens Energy announced a tender offer to acquire all remaining shares of SGRE, to focus on improving operational performance and profitability. The shareholders agreed and the company was delisted.</p>

GE

A Successful Turnaround Story



General Electric (GE) is an American multinational company, founded in 1892 by the merger of two electric companies (among its founders, was the electric lightbulb inventor Thomas Edison). **Today, the company operates worldwide through three segments: Aerospace, Renewable Energy and Power** (and has spun-off recently its Healthcare operations). Its product portfolio includes commercial and military aircraft engines and systems, wind and other renewable energy generation equipment, grid solutions and gas, steam, nuclear and other power generation equipment. GE is transforming its operational structure by splitting into three public companies (further explained in the next page).

Figure 48: Historical Revenues and EBITDA margin

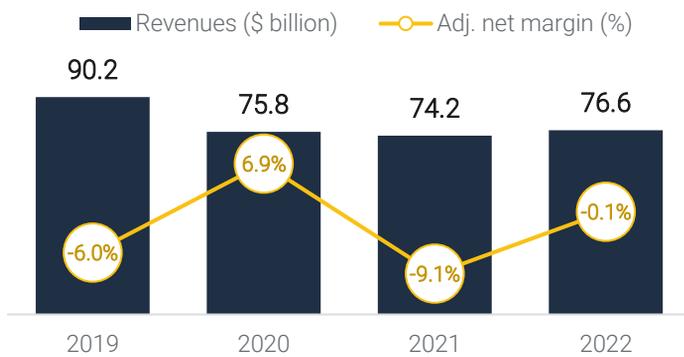


Figure 49: Revenue Breakdown (Segment)

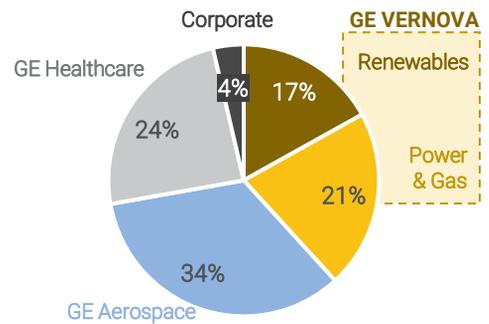


Figure 50: Revenue Breakdown (Geography)

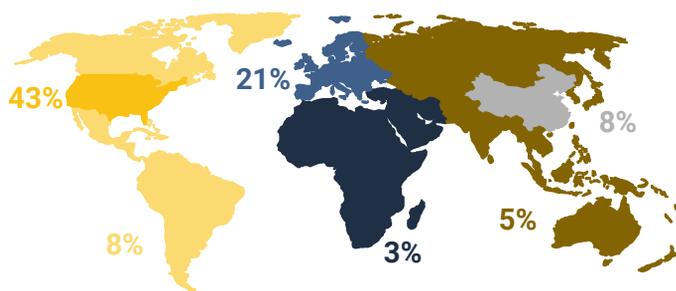


Figure 51: Consensus Estimates

GE	2023	2024
Consensus		
Net Revenues	64,613	71,854
EBITDA	7,947	10,161
EBITDA margin	12.3%	14.1%
EBIT	5,658	7,813
EBIT margin	8.8%	10.9%
Net Income	2,972	5,022
Net Margin	4.6%	7.0%

How does it compete against WEG? GE Vernova is the largely comparable to WEG’s EEI and GTD segments, with renewable energy and power & gas products. Among the companies’ divestments, we highlight its [selling of the Small Industrial Motor division to Wolong](#) in 2018 – exiting the LV/MV motors segment and reducing its portfolio overlap with WEG. We also highlight Prolec GE (its JV with a Mexican consortium focused on T&D products). In terms of geography, we note GE’s main market is the U.S. (~43% of revenues).

What are GE’s main growth avenues? GE highlights multiple opportunities in each of its divisions, such as (i) strong military demand forecasted in the U.S. and in foreign markets, driving growth in its Aerospace segment; (ii) continued energy transition and decarbonization trends, strengthening demand for its renewable energy products (although presenting as a risk for the Power division), in addition to (iii) an expected increase in electricity demand in the upcoming decades.

GE

Spinning-Off Into Three Companies



Figure 52: GE Post Spin-Offs Structure



In Nov'21, GE announced its intention to split its current operations into three public companies, by (i) spinning-off GE Healthcare, then (ii) spinning-off GE Vernova – focused on the energy sector and formed by the previous divisions GE Renewable Energy, GE Power and GE Digital. Then, the former GE company will be fully focused on the Aviation sector, with GE Aviation.

GE Healthcare's separation was concluded in Jan'23, and the stock is now traded on Nasdaq under the ticker "GEHC" (with GE retaining ~20% of share). GE Vernova's separation is expected to happen in early 2024.

After the movements, we note that GE Vernova will be a much more comparable peer to WEG than the previous conglomerate – in terms of product portfolio (as illustrated by the Figure 53 below), and potentially in terms of financials (e.g., margins) and valuation multiples.

Product Overview

Figure 53: Product Overview by Segment

WEG Overlap

	GE Vernova		GE Aerospace	GE Healthcare
	Renewable Energy	Power & Gas		
GE	Onshore wind turbines	Gas turbines	Commercial aircraft engines	Imaging
	Offshore wind turbines	Steam turbines	Military aircraft engines	Ultrasound
	Blade manufacturing	Industrial motors	Integrated engine components	Patient care solutions
	Grid solutions	Generators	Avionics systems	Contrast imaging
	Hydropower solutions	Automation	Aviation electric power systems	Molecular imaging agents
	Energy storage solutions	Drives	Turboprop engines	Services
	Hybrid renewable solutions	Controls	Engine gear	
	Digital services	Reactor design and fuel	Transmission components	
	Maintenance and services	Maintenance and services	Maintenance and services	

GE also has a joint venture with Mexican consortium Xignux called **Prolec GE**, focused on generation, transmission and distribution products. The company is expanding internationally, with business units today in Mexico, the U.S. and Brazil, and competes directly to WEG's GTD business (mainly on T&D).

Regal Rexnord

Energy-Efficiently Converting Power Into Motion



Regal Rexnord is a manufacturer of electric motors, power transmission products, industrial powertrain solutions and others. The company from Wisconsin (US) established itself as a global manufacturer after the acquisition in 2004 of GE's commercial AC and HVAC motor businesses (then, doubling its company size). After many other inorganic movements (including the merger with Power Motion & Control segment from Rexnord), Regal now operates with four business segments: (i) Industrial Powertrain Solutions (drives, gearing, bearings, couplings, industrial chains and components, etc); (ii) Power Efficiency Solutions (HVAC, commercial air handling, pool pumps); (iii) Automation & Motion Control (miniature motors, linear systems, and precision automation systems); and (iv) Industrial Systems (integrated motors and generators).

Figure 54: Historical Revenues and EBITDA margin

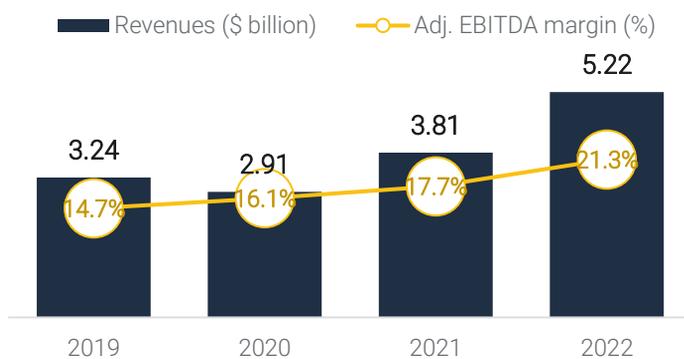


Figure 55: Revenue Breakdown (Segment)

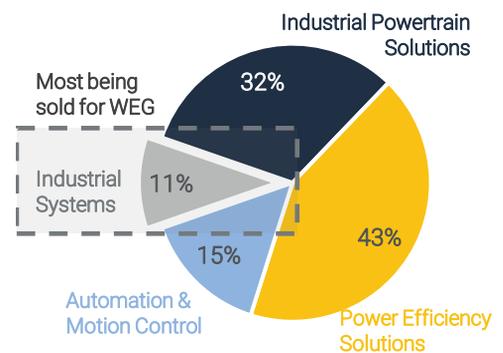


Figure 56: Revenue Breakdown (Geography)

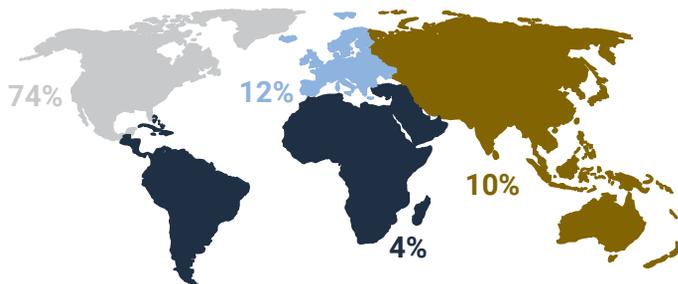


Figure 57: Consensus Estimates

Regal Rexnord	2023	2024
	Consensus	
Net Revenues	6,266	6,550
EBITDA	1,308	1,447
EBITDA margin	20.9%	22.1%
EBIT	759	861
EBIT margin	12.1%	13.1%
Net Income	606	675
Net Margin	9.7%	10.3%

How does it compete against WEG? Regal's portfolio overlaps with WEG's Commercial and Appliance Motors and Motion segments, producing various motors (from commercial to industrial use) and generators. We see the most resemblance amid Regal's Industrial Systems segment, which is in the final steps to be acquired by WEG. In terms of geography, we note Regal's strong presence in North America (representing ~74% of revenues), distantly followed by Europe (~12%).

What are Regal's main growth avenues? As discussed in its Annual Report, Regal aims to create value by accelerating growth and improving margins, among others. To do so, a few initiatives are: (i) to increase exposure to markets with secular growth tailwinds (related to energy efficiency); (ii) strengthen its product portfolio (e.g.: expanding industrial powertrain offering); and (iii) offer more value-added solutions, with sub-systems sales integrated with multiple products.

Regal Rexnord

Product Overview



Figure 58: Regal Rexnord Product Overview by Segment

WEG Overlap

	Climate Solutions	Commercial Systems	Motion Control Solutions	Industrial Systems
Regal Rexnord	Fractional horsepower motors	AC motors (<5 HP)	Bearings	Large AC motors
	Electronic variable speed controls	DC motors (< 5HP)	Conveyor products	Generators
	Blowers	Electronic variable speed controls	Conveying automation solutions	Alternators
		Fans	Couplings	Switchgear
		Blowers	Power transmission drives/ components	Switchboards
		Precision stator	Gearboxes	Control systems
		Rotor kits	Gear motors	Transfer switches
			Aerospace components	
			Special components products	
			Industrial powertrain components and solutions	

A Closer Look at WEG’s Acquisition

As we’ve discussed previously ([after the material fact](#) and later in [WEG’s update](#)), WEG announced in Sep’23 the acquisition of Regal’s industrial motors and generators businesses (with the disclosed revenue making up for ~98% of Regal’s Industrial Systems 2022 top-line), still pending on antitrust authorities' approval.

We continue to see as an opportunity for WEG to accelerate market share gains (with well-recognized brands) in common regions between the companies. As for end markets (as seen in Figure 61), we welcome Marathon’s strong presence in the mining sector, as well as Cemp’s motors for hazardous areas (flameproof).

Figure 59: Industrial Systems: Geography Breakdown

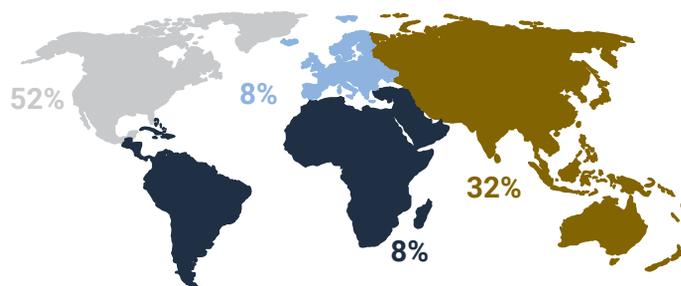


Figure 60: Acquired Brands

Brands	Product Examples
marathon Motors	
cemp Flameproof Motors	
rotor Part of Regal Rexnord	

Figure 61: Industrial Systems: End Markets



Schneider Electric

Energy Management & Automation Powerhouse



Schneider Electric is a French multinational company, founded in the early 1800s and focused on industrial automation and energy management solutions. Schneider attends four end-markets: buildings (either residential or not), data centers, infrastructure and industry, with a portfolio ranging from low and medium voltage products, drives and controls, EV charging, building automation, smart grids, among other products. Schneider's strategic guidelines show a gradual shift into a more digital player, favored by the development of its proprietary IoT platform *EcoStruxure*. Looking ahead, the company expects Software & Services to increase +5p.p. in terms of revenues by 2025 (to 23%), and recurring sales to increase +15p.p. in the division.

Figure 62: Historical Revenues and EBITDA margin

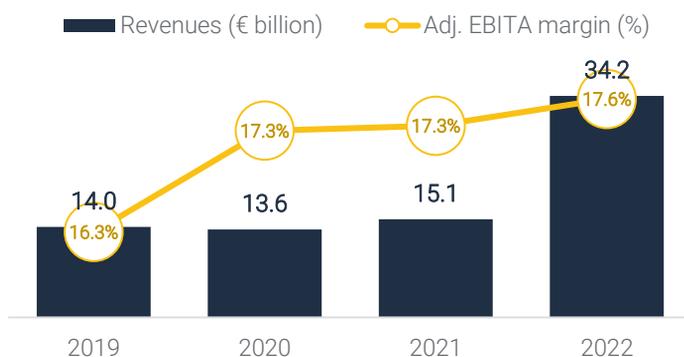


Figure 63: Revenue Breakdown (Segment)

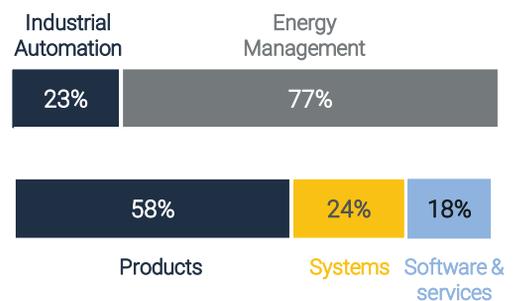


Figure 64: Revenue Breakdown (Geography)

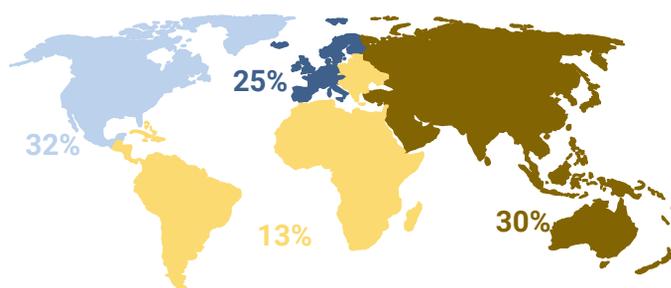


Figure 65: Consensus Estimates

Schneider	2023	2024
	Consensus	
Net Revenues	36,043	37,899
EBITDA	7,287	7,811
EBITDA margin	20.2%	20.6%
EBIT	6,031	6,496
EBIT margin	16.7%	17.1%
Net Income	4,331	4,747
Net Margin	12.0%	12.5%

How does it compete against WEG? We note the largest overlap between Schneider and WEG's solutions are amid automation and digitalization, with both companies offering drives, controls, panels and transformers. Schneider isn't present in industrial and commercial motors and is distancing from WEG by focusing on its Services & Support portfolio. In terms of geography, Schneider has four hubs (North America, Europe, China and Asia), and RoW revenues (including Brazil) making up for ~13%.

What are Schneider's main growth avenues? Schneider benefits from multiple trends, such as digitalization, decarbonization and grid stability. The company defines itself as a "digital flywheel", where the sales of connectable products (smart devices) enables demand for: edge control solutions, digital services & software and field services. Schneider also offers consulting services on sustainability and energy performance.

Schneider Electric

Product Overview



Figure 66: Schneider Electric Product Overview by Segment

WEG Overlap

	Residential and Small Business	Building Automation and Control	Low Voltage Products and Systems	MV Distribution and Grid Automation	Critical Power, Cooling and Racks	Industrial Automation and Control	Solar and Energy Storage Access to Energy
Schneider Electric	Audio Video Solutions	Access Control	Assets & Systems Services			Contactors and Protection Relays	Grid-Tie String Inverters
	Energy Management Software Solutions				Critical Power and Cooling Services	Human Machine Interfaces (HMI)	Residential Energy Storage
	Home Automation		Circuit Breakers and Switches	Feeder Automation	Cooling	Enclosures and Accessories	Power Quality and Power Factor Correction
	Power Quality and Power Factor Correction			Field Services	Data Center Software	Industrial Automation Software	Access to Energy Collective Solutions
	Electric Vehicle (EV) Charging	Power & Energy Monitoring System			Field Services	Industrial Communication	Home Systems
	Electrical Protection and Control	Emergency Lighting	Busway and Cable Support	Grid Automation and SCADA Software	IT Power Distribution	Interface, Safety and Control Relays	
	Emergency Lighting	Controllers, Expansion Modules, Servers & HMIs	Contactors and Protection Relays	Medium Voltage Switchgear	Prefabricated Data Center Modules	Measurement and Instrumentation	
	Home Security	Fire Detection	Electrical Protection and Control	Medium Voltage Switchgear Components	Racks and Accessories	Motion Control and Robotics	
	Installation Material and System	Network Infrastructure and Connectivity	Electric Vehicle (EV) Charging	Medium Voltage Transformers	Security and Environmental Monitoring	PLC, PAC and Dedicated Controllers	
	Light Switches and Electrical Sockets	Sensors & Room Units	Emergency Lighting	Outdoor Switchgear and Equipment	Surge Protection and Power Conditioning	Power Supplies, Power Protection and Transformers	
	Network Infrastructure and Connectivity	Valves and Valve Actuators	Field Services	Protection Relays by Application	Uninterruptible Power Supply (UPS)	Process Control and Safety	
	Surge Protection and Power Conditioning	Variable Speed Drives and Soft Starters	Push Buttons, Switches, Emergency Stops and Pilot Lights	Protection Relays by Range		Push Buttons, Switches, Emergency Stops and Pilot Lights	
	Switchboards and Enclosures		Switchboards and Enclosures	Substation Automation		Sensors and RFID System	
	Uninterruptible Power Supply (UPS)					Signaling Devices	
						Telemetry and Remote SCADA Systems	
						Variable Speed Drives and Soft Starters	

Nidec

World's #1 Comprehensive Motor Manufacturer



Nidec Corporation was founded in Kyoto in 1973 as a small precision AC motor producer. The company specializes in multiple motor application products, including small precision motors, home appliance motors, commercial and industrial motors and motors for machinery, electronic and optical components – according to its institutional website “everything that spins and moves”. Nidec highlights its strong inorganic growth (71 M&As supporting its expansion) and looking ahead, the company continues to see as an essential part of its growth strategy. Nidec divided its sales between: (i) appliance, commercial and industrial products, (ii) automotive products (including EVs-related), (iii) small precision motors; (iv) machinery; and (v) electronic and optical components.

Figure 67: Historical Revenues and EBITDA margin

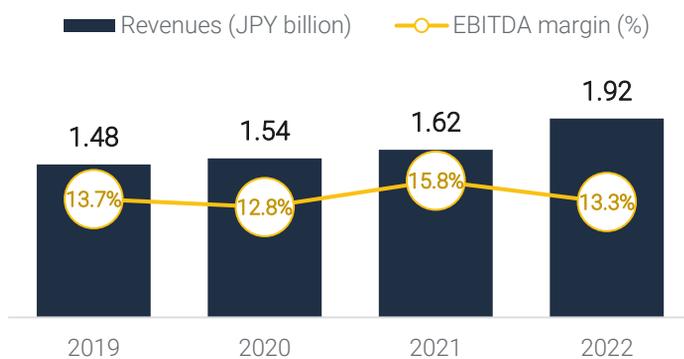


Figure 68: Revenue Breakdown (Segment)

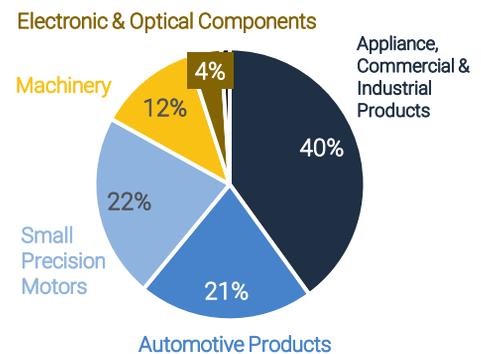


Figure 69: Revenue Breakdown (Geography)

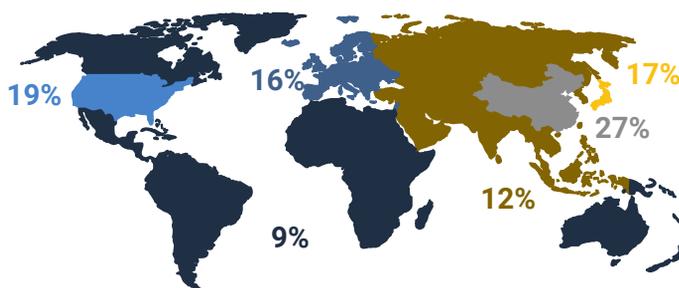


Figure 70: Consensus Estimates

Nidec Corporation	2023	2024
	Consensus	
Net Revenues	2,233	2,330
EBITDA	233	324
EBITDA margin	10.4%	13.9%
EBIT	n.a.	n.a.
EBIT margin	n.a.	n.a.
Net Income	78	159
Net Margin	3.5%	6.8%

How does it compete against WEG? Nidec’s portfolio overlaps with WEG in electric powertrain and motor products (from small to medium/large size, such as synchronous and induction motors). The companies also have similarities amid its “motor-related products” segment, with drives, generators, alternators and soft starters. In terms of geography, we note Nidec naturally has a large revenue share in China and Japan, which are less relevant in WEG’s consolidated figures.

What are Nidec’s main growth avenues? Nidec has disclosed its goals for 2025E, including 4 trillion yen revenue and ROIC over 15%. In order to achieve that, the company projects organic and inorganic growth in all segments – with highlights to automotive products (sales in ‘25e more than 3x ‘20a figures, backed by the shift to electric vehicles and decarbonization-related products, e.g.: E-axle and traction motor for EVs). Nidec also sees opportunities in more energy-efficient motors (industry, commercial and appliances).

Nidec

Product Overview



Figure 71: Nidec Product Overview by Segment

WEG Overlap

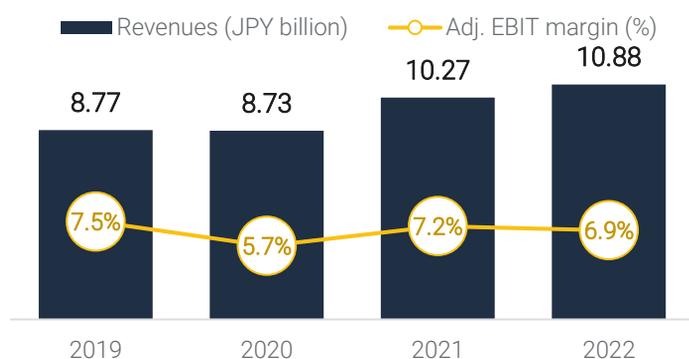
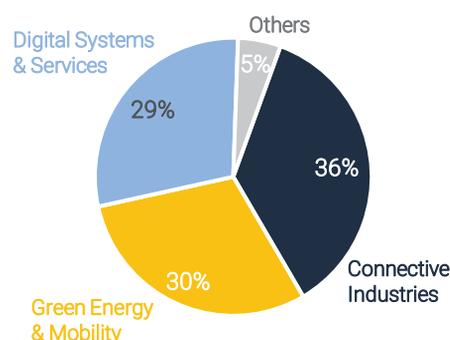
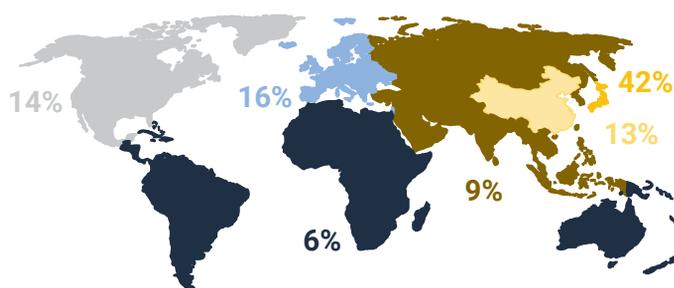
	Medium and large-size motors	Mold, molding, cutting, and machining components	Mechanical equipment / Automotive / Other	Sensors / Electronic devices	Motor-related products	Units and modules
Nidec	Induction (asynchronous) motors	Mold unit design & production	Factory automation (FA) equipment	Pressure sensors	Transmissions & reducers	Refrigerator units
	Synchronous motors	Gears	IoT (Internet of Things)	Liquid leak sensors	AG panels	Clothes washer & dryer units
	Brushless DC motors	Precision molding components	Card readers & writers	Current sensors	Encoders	Water heater & gas water heater units
	Servo motors	Cutting components	Machine Tools	Encoders	Drives	Toilet & bidet units
	Pump motors	Press-machined product	Laser Products/Wafer Bonding Machines/Metal 3D Printers	Potentiometers	Low, medium- and high-voltage drive	Pump unit
	Medium & high voltage motors	Mold	Powertrain	Switches	High-power generator	Industry, home appliances, system equipment
	Robotics motors	Prototype / Tool	Body	Trimmer potentiometers	Power conversion system	Mobile device
	Small-size and precision motors	Precision Cutting Tools	ADAS (advanced driver-assistance system)	Attenuators	Power source	Thermal management device
	Brushless DC motors	Inspection and measuring equipment	Heat management	Resettable fuses	Automation & Control Systems	
	Geared motors	Automatic electrical inspection	Music boxes	Optical equipment	DC Motors	
	Coreless motors	Inspection jig			Softstarters	
	Polygon laser scanners	Optical inspection equipment			Battery Energy Storage Systems	
	Tactile devices	Measuring device for automobile parts			HDD Components	
	Stepping motors	Image processing equipment			Generators	
	Fans & blowers	Measurement device for air conditioner compressor			Industrial Alternators	
		Precision Position Feedback Detectors			Customized alternators	
				Electronic products		

Hitachi

Green, Digital & Innovation

HITACHI

Hitachi is a Japanese conglomerate, founded in 1910 as an electrical machinery manufacturer (first subsidiary to a mining company, then independent). The company is now divided into three revenue segments: (i) connective industries (with products such as building systems, measurement & analysis systems, water & environment and industrial products; (ii) green energy & mobility (which support power generation, transmission and distribution through power grids, renewable energy solutions, distributed power source solutions, as well as intelligent fleet decarbonization); and (iii) digital systems & services, with digital cloud services, engineering, AI, system integration, among other services and solutions.

Figure 72: Historical Revenues and EBITDA margin

Figure 73: Revenue Breakdown (Segment)¹

Figure 74: Revenue Breakdown (Geography)

Figure 75: Consensus Estimates

Hitachi	2023	2024
	Consensus	
Net Revenues	10,648	9,383
EBITDA	1,282	1,184
EBITDA margin	12.0%	12.6%
EBIT	n.a.	n.a.
EBIT margin	n.a.	n.a.
Net Income	625	561
Net Margin	5.9%	6.0%

How does it compete against WEG? We understand Hitachi's portfolio is most comparable to WEG in the Green Energy & Mobility segment, especially strengthened after the full acquisition of ABB's Power Grids businesses (today called Hitachi Energy making up for ~60% of GEM's sales). Hitachi Energy is a global leader in transformers (power, distribution, dry-type distribution), and present as well in substations and high voltage solutions (switchgears, breakers, HVDC).

What are Hitachi's main growth avenues? As discussed in Hitachi's integrated 2022 report, the company foresees growth from (i) continued global expansion of Lumada, its advanced digital solutions, services and technologies (aiming digital transformation); while the (ii) Green Energy & Mobility segment should benefit from decarbonization and the search for energy-saving equipment.

Hitachi

Product Overview



Figure 76: Hitachi Product Overview by Segment

WEG Overlap

Hitachi	Green Energy & Mobility	Connective Industries	Digital Systems & Services	
			Digital Solutions	IT Products and Others
	Power Grids	Elevators & Escalators	Finance Solutions	Digital IT Infrastructure Solutions
	Nuclear Energy	Building Solutions	Social Infrastructure Information Systems	Hyper-Converged Infrastructure (HCI) Solutions
	Clean Energy	Home Appliances	Government & Public Corporation Information Systems	Server Solutions
	Energy Management Services	Air Conditioners	Security	Storage Solutions
	Distributed Power Source Solutions	Medical & Bio	Big Data & AI	Middleware & Platform Software
	IT & OT Solutions for Energy	Semiconductor	Cloud Services	ATM
	Rolling Stock	Industry	IoT / Data Management	
	Digital Signalling & Systems	Healthcare		
	Turnkey	Industry & Distribution Solutions		
	Operation, Service & Maintenance	Water & Environment Solutions		
		Mass-produced Industrial Equipment		
		Custom-made Industrial Equipment		

Figure 77: From ABB Power Grids to Hitachi Energy

2020 **JV Launch**

In 2020, Hitachi bought a majority share (80%) of ABB’s Power Grids Business, while ABB held the remaining 20% stake, forming a joint-venture called [Hitachi ABB Power Grids](#). [Media](#) indicates the transaction as an opportunity for Hitachi to increase its global presence in the power grid industry, while ABB could offload its least profitable segment and focus on segments such as industrial automation.

2021+ **Hitachi Energy**

Later in 2021, Hitachi ABB Power Grids was [rebranded as Hitachi Energy](#), with the company reiterating its commitment to “the realization of a sustainable society”. Finally, in 2022, Hitachi acquired the 20% remaining stake, leading to the company structure we see today. Hitachi Energy is consolidated under the Green Energy & Mobility segment (making up for ~60% of revenues).

Rockwell Automation

Pure-Play Automation and Digital Transformation



Rockwell Automation is an American pure play automation and digital transformation company founded in 1903. Rockwell offers (i) Intelligent Devices (drives, motion, safety, sensing, industrial components and configured-to-order products); (ii) Software & Control (control and visualization software and hardware, information software and network and security infrastructure); and (iii) Lifecycle Services (consulting, professional services and solutions and maintenance). ROK's major markets include discrete industries (such as automotive and semiconductor), hybrid industries (F&B and life sciences) and process industries (such as metals and O&G). The company has product and digital platforms that integrate with its industry solutions and aims to "drive simplification through its industry-focused solutions".

Figure 78: Historical Revenues and EBITDA margin

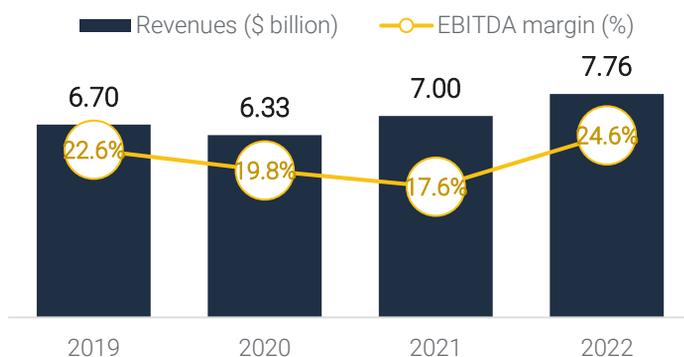


Figure 79: Revenue Breakdown (Segment)

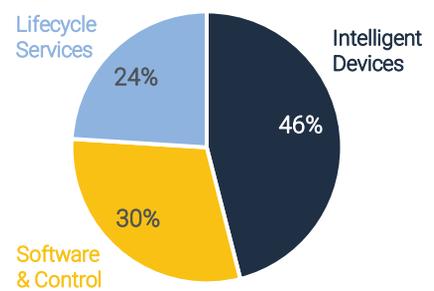


Figure 80: Revenue Breakdown (Geography)

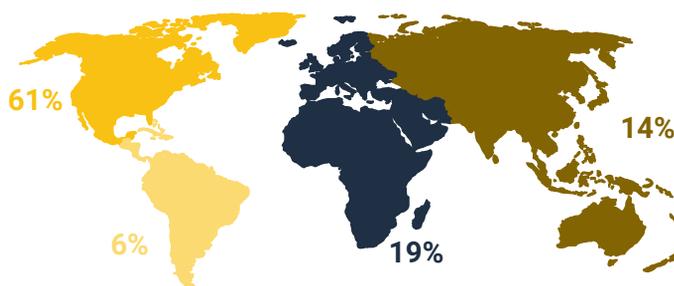


Figure 81: Consensus Estimates

Rockwell Automation	2023	2024
Consensus		
Net Revenues	8,918	9,236
EBITDA	2,016	2,019
EBITDA margin	22.6%	21.9%
EBIT	1,761	1,778
EBIT margin	19.8%	19.3%
Net Income	1,378	1,399
Net Margin	15.4%	15.1%

How does it compete against WEG? Rockwell's Intelligent Devices portfolio is comparable to WEG's Automation division, including drives, controls, signaling and safety devices. Rockwell has a large variety of software and services in which WEG doesn't focus on, such as information services and consulting and workforce services. Rockwell's most important region in terms of revenues is North America, accounting for ~61% of 2022's sales (Latin America only ~6%).

What are Rockwell Automation's main growth avenues? Alike many of WEG's peers and the company itself, Rockwell sees opportunities from sustainability trends, as well as outsourcing – customers are outsourcing engineering services to have a more flexible cost base and are looking for more energy-efficient processes and technologies. Rockwell aims to increase its footprint and presence outside of the U.S., especially in emerging markets, targeting an enhanced market access (in the OEM segment, for example).

Rockwell Automation

Product Overview



Figure 82: Rockwell Automation Product Overview by Segment

WEG Overlap

	Intelligent Devices	Software & Control	Lifecycle Services
Rockwell Automation	Low and medium voltage drives	Programmable automation controllers	Consulting services (safety, security, digital transformation, design)
	Low and medium voltage motor control	Design, visualization and simulation software	Professional services (global automation and information, project management and delivery capabilities)
	Servo drives	Human machine interface products	Connected services (cybersecurity, cloud, operational technology/plant network, etc)
	Rotary servo motors	Industrial computers	Field services (on-site support and safety, etc)
	Linear actuators	Machine safety and process safety products	Workforce services (training and enablement)
	Independent cart technologies	Industrial networks	Sensia Joint Venture (services for O&G and petrochemical industries)
	Safety devices	Security products	Industrial automation and information solutions
	Sensing devices	Manufacturing execution systems	Custom-engineered systems
	Motor control	Performance, quality, supply chain management	
	Circuit protection devices	Data management	
	Operator devices	Edge, analytics and machine learning software	
	Signaling devices		
	Relays		
	Electrical control accessories		
	Micro programmable logic controllers (PCL)		
Distributed input/output platforms			

Other Relevant Companies in Motion and Automation

Wolong, Eaton and Emerson



Chinese Powerhouse of Low-Voltage Motors

Company profile: Wolong is a leading manufacturer in the global electric motors, power transmission, and energy solutions industry. Founded in 1984, the company currently operates in three main product chains: (i) Motors and Controls (low to high voltage motors for various industrial and commercial applications); (ii) Power Transmission and Distribution (including transformers, circuit breakers, and other transmission and distribution equipment); and (iii) Energy Sources (solar inverters, energy storage systems, and electric vehicle chargers). The company distributes its products both to its domestic and overseas markets.

Competitive overlap vs. WEG: Wolong and WEG compete in products and target markets related to electric motors, drives and other industrial automation components for similar varieties of sectors (industrial, agricultural, power generation and automotive). However, Wolong has a greater presence in China and the rest of Asia (60% and 25% respectively) and only 7% in America, where WEG has a larger exposure.



Solid Positioning on Power Management and Automation

Company profile: Eaton is a power management company founded in 1911 in the United States. With operations in more than 175 countries, the company's segments include: (i) Electrical Americas and (ii) Electrical Global (which include electrical and industrial components, power distribution and assemblies); (iii) Aerospace (a global supplier of aerospace fuel, hydraulics, and pneumatic systems for commercial and military use, among others); (iv) Vehicle (drivetrain, powertrain systems and critical components); and (v) eMobility (designs, manufactures, markets, and supplies mechanical, electrical, and electronic components and systems).

Competitive overlap vs. WEG: Eaton and WEG compete in the energy management and industrial automation sectors. Similarities between the two companies' products include electrical equipment (circuit breakers, fuses, motor starters, power distribution units, and transformers), industrial controls, sensors and software, and energy solutions. The companies compete especially in the U.S. and Europe, where Eaton has 43% and 38% of its revenues, respectively. Eaton, however, is more diversified, with a strong focus on power quality.



Strong Presence in Motion/Automation-Related Products

Company profile: Emerson is a global technology and software company that combines technology and engineering to provide advanced solutions to its customers. The company was founded in 1890 in United States and has grown operations into more than 150 countries. Emerson provides a wide range of automation solutions for various industries, including six segments under two business groups, such as: (i) Intelligent Devices (a business that includes Final Control, Measurement & Analytical, Discrete Automation, and Safety & Productivity); and (ii) Software and Control (with include Control Systems & Software, AspenTech, and Test & Measurement).

Competitive overlap vs. WEG: Emerson and WEG compete in a wide range of electric motors and drives with focus on industrial applications (automation has a higher overlap). Similar products between the two companies include electric motors, variable speed drives, automation and power distribution. Both companies compete especially in the United States, (which represents 43% of Emerson's top-line).

Other Relevant Companies in GTD

Aldo, Intelbras, Vestas and Nordex



One of Main Competitors in Solar Distributed Generation in Brazil

Company profile: Aldo Solar (now part of *Descarbonize*) is a distributor of solar energy solutions in Brazil headquartered in Santa Catarina. Founded in 1983, the company has diversified business lines: **(i) Equipment Distribution** (solar panels, power inverters, structures, and other components); **(ii) On-Grid and Off-Grid Solutions** (systems for remote or isolated locations); **(iii) Solar Pumping** (surface or submersible pumps powered by solar energy); and **(iv) Complementary Services** (consulting services, system sizing, etc).

Competitive overlap vs. WEG: Both are strong in the Brazilian solar market and compete in products such as photovoltaic solar panels, inverters, monitoring and control systems. While WEG primarily focuses on large-scale panels for utility projects, Aldo caters to both large and smaller residential/commercial needs destined almost exclusively to the domestic market (~85% of sales).



A Niche Competitor

Company profile: Intelbras is a Brazilian manufacturer of security, networking, communication, and energy solutions. Founded in 1976, the company has expanded its operations to more than 15 countries, dividing its activities into three operational segments: **(i) Security** (with a focus on electronic security, such as analog video surveillance equipment, alarms, sensors etc.); **(ii) Communication** (voice, image, data communication and network infrastructure); and **(iii) Energy** (batteries, sources and solar generation product lines). *Intelbras is covered by our TMT Team (Buy; TP R\$29.0/sh.). See [here](#) their last update.*

Competitive overlap vs. WEG: Intelbras and WEG have limited direct competition, related exclusively to the companies' solar and housing appliances (which WEG is recently growing more significantly, taking advantage of its solar-related sales channel). Intelbras primarily focuses on telecommunications, security, and networking solutions, with limited international exposure (75% of revenue in Brazil).



Largest Wind Turbines' Manufacturer in the World

Company profile: Vestas is a Denmark-based company active within the wind power industry, acting in the design, manufacture and services related to onshore and offshore wind turbines worldwide. Vestas operates through two segments: **(i) Project** (wind power plants and wind turbines, among others); and **(ii) Service** (data-driven consultancy services, fleet optimization, blade maintenance and inspection, repairs and others). The company has a strong presence in Europe, North America, Asia, and Latin America.

Competitive overlap vs. WEG: Vestas and WEG both operate in the wind turbine industry, with turbine manufacturing as well as operation & maintenance services. However, Vestas has a wider product portfolio and global reach (45% and 25% of revenue in United States and North America, respectively), while WEG focuses on specific markets and has greater share in Brazil.



Strong Positioning in Brazil

Company profile: Nordex is a Germany-based company focused on wind energy solutions, developing, manufacturing and distributing wind power systems globally. The company's main products are wind turbines, especially the Nordex N90/2500, N100/2500 and N117/2400. In addition, Nordex offers solutions and systems, including wind turbines services and maintenance. The company has offices and subsidiaries around the world, with production facilities in Germany, China and the United States.

Competitive overlap vs. WEG: Nordex and WEG are both players in the wind energy industry, however with distinct approaches and market focuses, with both competitive and complementary offerings. Nordex offers a range of onshore turbine models with capacities ranging from 2.3 MW to 5.0 MW, while WEG offers a smaller range of onshore and offshore turbine models. Nordex has a major presence in Europe and a limited presence in North America (70% and 15% of revenues, respectively).

Valuation Overview

Valuation Comparison

Historical Multiples

WEG Trading at a 28% Premium vs. Global Peers

Figure 83: WEG P/E Multiples Overview vs. Global Peers

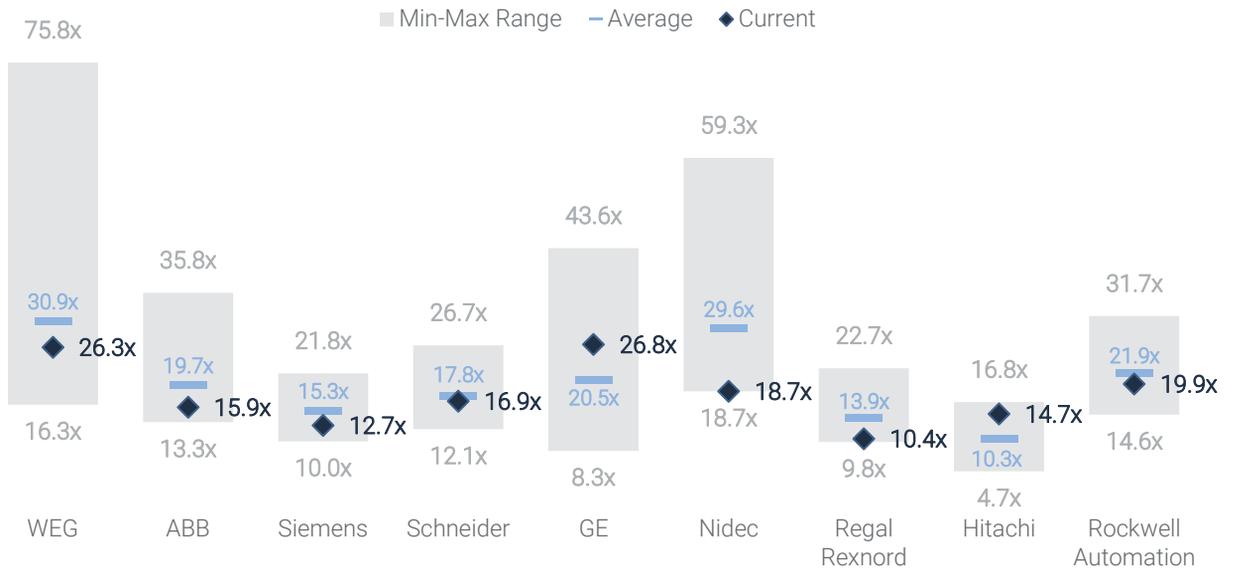


Figure 84: WEG Historical P/E Multiples vs. Global Peers

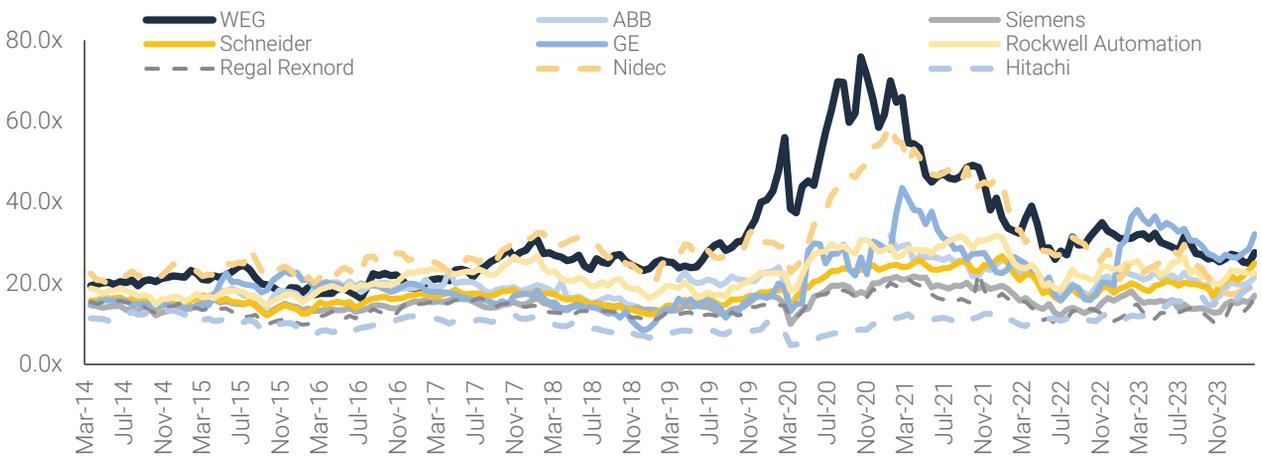
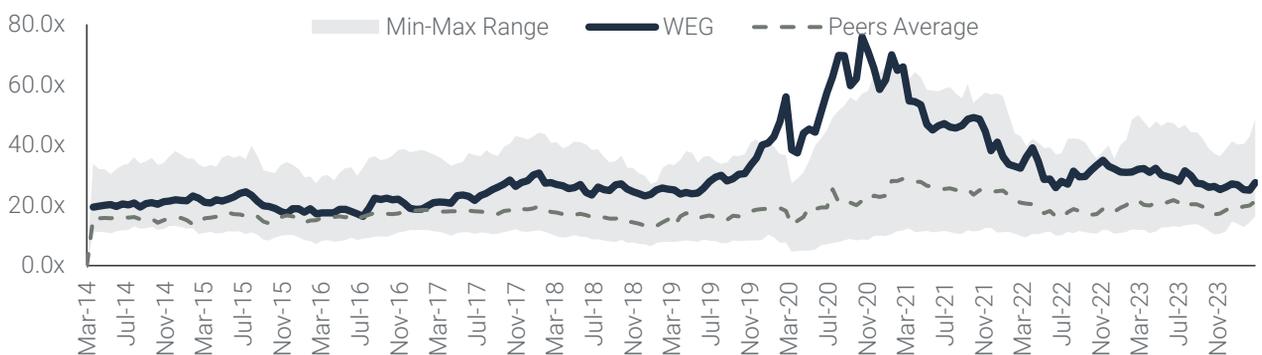


Figure 85: WEG Historical P/E Multiples vs. Global Peers Range



Earnings Revisions

Organic Net Earnings Expected to Contract in 2025 vs. 2024

Figure 86: Consensus EBITDA Revision and YoY Variation

Company	Currency	EBITDA '24	EBITDA '24	'24 EBITDA	EBITDA '25	EBITDA '25	'25 EBITDA	'25/24 YoY
		(1 year ago)	(today)	Revision	(1 year ago)	(today)	Revision	Var
		(a)	(b)	(b/a)	(c)	(d)	(d/c)	(d/b)
WEG	BRL bn	7578	7713	2%	8312	8738	5%	13%
ABB	USD bn	5522	6361	15%	5840	6874	18%	8%
Siemens	EUR bn	14139	15053	6%	15420	16304	6%	8%
Siemens Energy	EUR bn	2826	1530	-46%	3263	2416	-26%	58%
GE	USD bn	10071	10471	4%	9605	12513	30%	20%
Regal Rexnord	USD bn	1256	1486	18%	1633	1624	-1%	9%
Schneider	EUR bn	7480	7794	4%	7357	8438	15%	8%
Hitachi	JPY trn	364	350	-4%	413	383	-7%	9%
Nidec	JPY trn	1269	1189	-6%	1344	1239	-8%	4%
Rockwell Automation	USD bn	1961	2082	6%	2113	2205	4%	6%

Figure 87: Consensus Net Income Revision and YoY Variation

Company	Currency	Net Income '24	Net Income '24	'24 Net Income	Net Income '25	Net Income '25	'25 Net Income	'25/24 YoY
		(1 year ago)	(today)	Revision	(1 year ago)	(today)	Revision	Var
		(a)	(b)	(b/a)	(c)	(d)	(d/c)	(d/b)
WEG	BRL bn	5680	5574	-2%	6212	6322	2%	13%
ABB	USD bn	3101	4018	30%	3344	4235	27%	5%
Siemens	EUR bn	7602	8278	9%	8169	9139	12%	10%
Siemens Energy	EUR bn	888	-93	-111%	1337	681	-49%	
GE	USD bn	4530	5099	13%	5468	6634	21%	30%
Regal Rexnord	USD bn	791	652	-18%	980	827	-16%	27%
Schneider	EUR bn	4637	4728	2%	4751	5221	10%	10%
Hitachi	JPY trn	193	179	-7%	227	196	-14%	10%
Nidec	JPY trn	548	555	1%	605	595	-2%	7%
Rockwell Automation	USD bn	1331	1476	11%	1442	1590	10%	8%

Comps Table

Global Industrials Comps

Figure 88: Comps Table

Companies	Current Price	Rating	Market Cap (\$ mi)	ADTV (\$ mi)	P/E		EV/EBITDA		ROIC		EBITDA CAGR
					2024	2025	2024	2025	2024	2025	2024-2026
Brazil Industrials					8.5x	9.1x	5.1x	4.9x	14.3%	14.8%	6.2%
WEG	37.29	Neutral	30,976	49.8	29.0x	26.7x	20.5x	18.7x	33.1%	31.5%	10.0%
Aeris	0.67	Neutral	167	0.7	24.4x	14.3x	6.5x	6.0x	7.9%	8.8%	3.9%
Kepler Weber	9.68	Buy	350	2.2	8.2x	7.4x	4.4x	3.8x	33.0%	35.5%	-1.2%
Randoncorp	11.01	Buy	721	4.6	7.4x	5.8x	5.1x	4.5x	14.3%	15.6%	10.9%
Tupy	25.60	Buy	742	2.8	6.0x	5.4x	3.8x	3.5x	14.0%	14.4%	10.4%
Iochpe-Maxion	12.56	Neutral	388	2.0	6.6x	6.1x	4.1x	4.0x	8.0%	8.5%	6.2%
Frasle Mobility	16.35	Neutral	888	0.8	10.2x	9.1x	5.1x	4.9x	25.4%	25.2%	3.3%
Marcopolo	8.78	Buy	1,543	14.1	8.5x	9.5x	7.5x	7.8x	18.8%	14.8%	-5.0%
Global Industrials					16.9x	14.8x	10.7x	10.1x	14.5%	12.4%	8.4%
Siemens	181.28	N.C.	156,669	259.4	17.3x	15.9x	12.0x	11.0x	9.2%	10.4%	9.1%
ABB	40.74	N.C.	86,695	127.8	22.8x	21.1x	14.4x	13.4x	24.3%	25.6%	7.1%
Schneider	209.90	N.C.	129,893	166.8	25.4x	22.8x	16.6x	15.2x	14.0%	15.2%	8.9%
Emerson Electric	106.85	N.C.	61,086	354.2	19.7x	18.3x	16.8x	15.4x	15.7%	13.5%	7.2%
Regal Rexnord	171.49	N.C.	11,391	92.1	16.9x	14.1x	11.9x	10.9x	6.0%	6.8%	7.9%
Nidec	5,716.00	N.C.	22,725	111.7	21.8x	17.8x	12.3x	10.5x	n.a.	n.a.	13.2%
Legrand	92.94	N.C.	26,510	45.1	20.1x	19.0x	13.1x	12.5x	15.0%	15.7%	5.9%
Alstom	12.09	N.C.	5,017	22.4	9.2x	7.2x	7.0x	5.8x	30.2%	9.0%	18.7%
Cummins	268.61	N.C.	38,104	500.0	14.7x	13.1x	8.7x	8.1x	18.4%	20.2%	8.6%
Johnson Controls	59.27	N.C.	40,392	337.2	16.6x	14.8x	11.5x	10.7x	10.9%	11.3%	8.2%
NSK	830.90	N.C.	2,770	12.9	30.7x	17.3x	7.1x	6.2x	n.a.	n.a.	13.6%
Trinity	25.38	N.C.	2,078	12.8	18.0x	14.2x	10.7x	10.1x	n.a.	n.a.	n.a.
CIMC	9.44	N.C.	5,594	46.8	13.6x	11.5x	9.1x	7.3x	5.4%	5.5%	n.a.
Okuma	7,132.00	N.C.	1,605	9.5	12.4x	12.7x	5.9x	5.9x	n.a.	n.a.	6.3%
Mori Seiki	3,469.00	N.C.	2,913	27.6	11.8x	10.5x	5.8x	5.3x	n.a.	n.a.	9.1%
Kennametal	25.24	N.C.	2,001	19.7	16.8x	15.1x	8.2x	7.4x	7.8%	8.5%	7.3%
Haitian	20.05	N.C.	4,087	1.9	10.7x	9.6x	6.3x	5.6x	17.5%	18.9%	n.a.
Wind Energy Companies					15.7x	11.3x	9.1x	6.5x	10.7%	12.0%	28.3%
Nordex	11.36	N.C.	2,902	9.9	185.6x	16.0x	10.0x	5.4x	n.a.	n.a.	45.7%
Vestas	197.52	N.C.	28,920	57.7	43.7x	21.9x	15.2x	10.3x	19.8%	39.6%	31.9%
SGRE	18.05	N.C.	13,180	18.4	n.a.						
GE	156.89	N.C.	170,749	811.9	33.7x	25.9x	16.8x	13.9x	17.9%	24.9%	15.3%
Acciona	106.75	N.C.	6,326	14.4	12.9x	11.3x	7.1x	6.3x	n.a.	n.a.	10.7%
Goldwind	7.68	N.C.	3,983	25.7	10.3x	8.6x	9.6x	8.5x	3.7%	4.0%	n.a.
Mingyang	10.19	N.C.	3,455	71.8	5.7x	4.7x	5.7x	4.6x	11.2%	10.8%	n.a.
Riyue Heavy	10.78	N.C.	1,546	21.1	13.7x	11.4x	8.4x	6.8x	7.4%	9.0%	n.a.
CS Wind	51,700	N.C.	1,633	10.7	17.7x	10.3x	8.5x	6.1x	10.2%	13.2%	28.3%
Solar & Storage Companies					13.9x	11.0x	8.7x	7.7x	9.8%	11.2%	31.3%
First Solar	153.89	N.C.	16,443	374.5	11.3x	7.1x	7.6x	5.0x	23.2%	30.7%	45.0%
Canadian Solar	21.09	N.C.	1,364	21.6	5.5x	3.7x	5.0x	3.9x	6.4%	8.4%	31.9%
Enphase Energy	127.01	N.C.	17,243	614.7	37.8x	22.8x	30.0x	19.0x	75.7%	86.5%	36.9%
SunPower	3.11	N.C.	545	32.4	n.a.	n.a.	n.a.	10.0x	-12.4%	0.5%	n.a.
SMA Solar	58.85	N.C.	2,206	8.5	14.5x	12.9x	7.5x	6.7x	n.a.	n.a.	12.7%
Solaria Energia	11.05	N.C.	1,492	12.1	13.0x	11.0x	10.4x	8.3x	8.5%	8.3%	30.6%
CATL	164.55	N.C.	100,708	727.6	14.1x	11.4x	8.7x	7.2x	46.4%	48.0%	16.5%
BYD Electronic	30.90	N.C.	8,893	15.0	12.6x	9.6x	6.6x	5.5x	20.8%	23.0%	n.a.
EVE Energy	39.40	N.C.	11,214	137.3	13.9x	10.5x	13.2x	10.0x	9.8%	11.2%	n.a.
Sunwoda	14.36	N.C.	4,332	60.5	20.6x	15.7x	10.9x	9.1x	8.4%	9.1%	n.a.
Vision	14.83	N.C.	793	13.8	n.a.						

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