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COGNEX

Equity Research Division

Cognex Corporation

Revolutionizing automation with machine vision

Target Price: \$44.25

Current Price: \$36.91

Upside Potential: +19.88%

Recommendation: BUY

Investment Horizon: 5 Years

Vienna, 02.02.2024

Team Overview

Equity Research



**Timon
Aberham**

Head of ER

- Task distribution
- Storyline



MSc. – 2nd Sem.



**Christo
Genchev**

Associate

- Industry & Market



BSc. (WU) – 7th
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- Valuation
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MSc. (WU) –
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**Leon
Pucharski**

Associate

- Valuation
- Financial Analysis



BSc. (WU) –
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**Leopold
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Analyst

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Analyst

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Analyst

- Business Model



BSc. (WU) –
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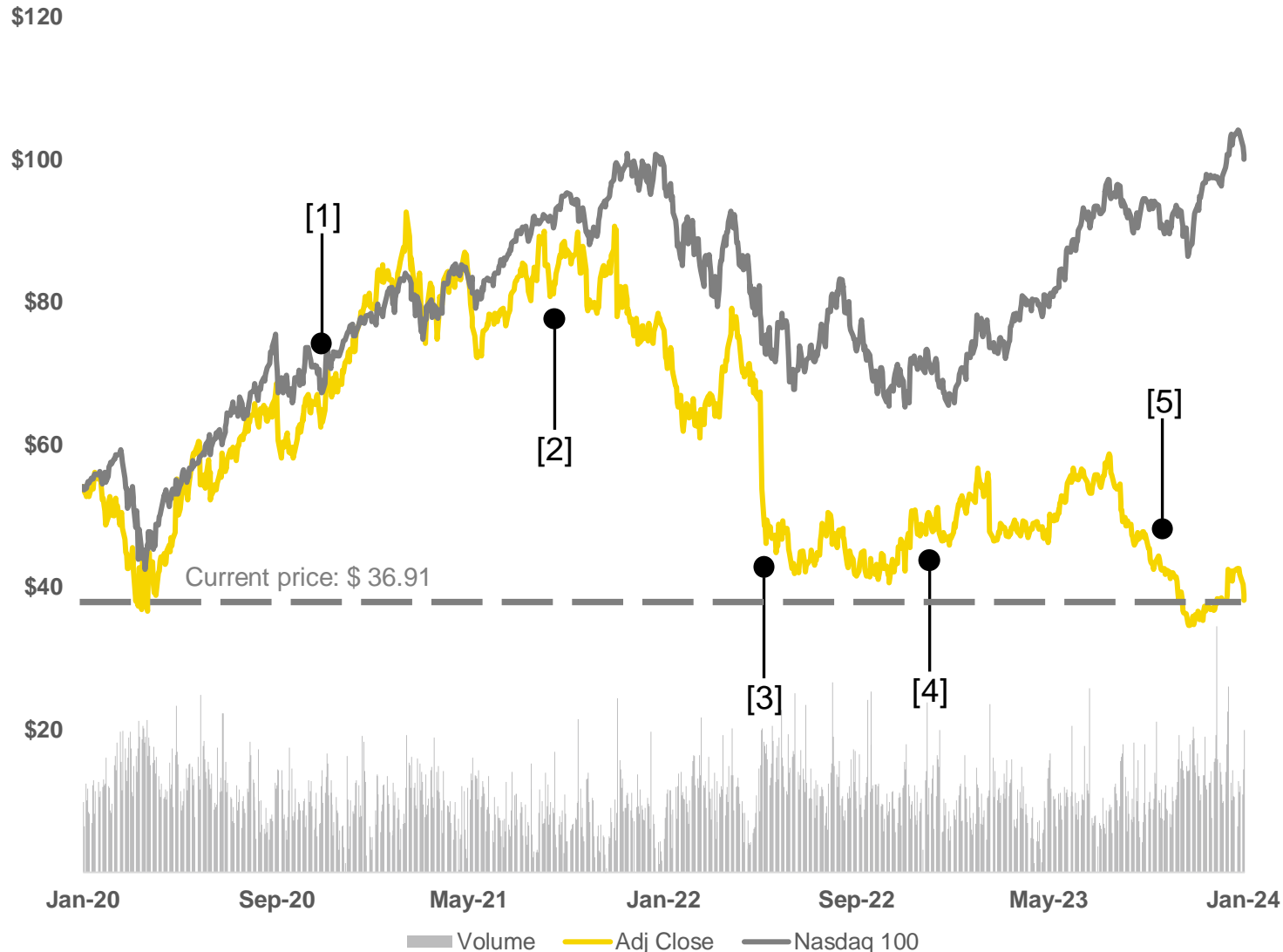
Agenda

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Share Price Performance

Cognex recently suffered from declining revenue, leading to a deviation from the NASDAQ that is poised to revert



Major Events

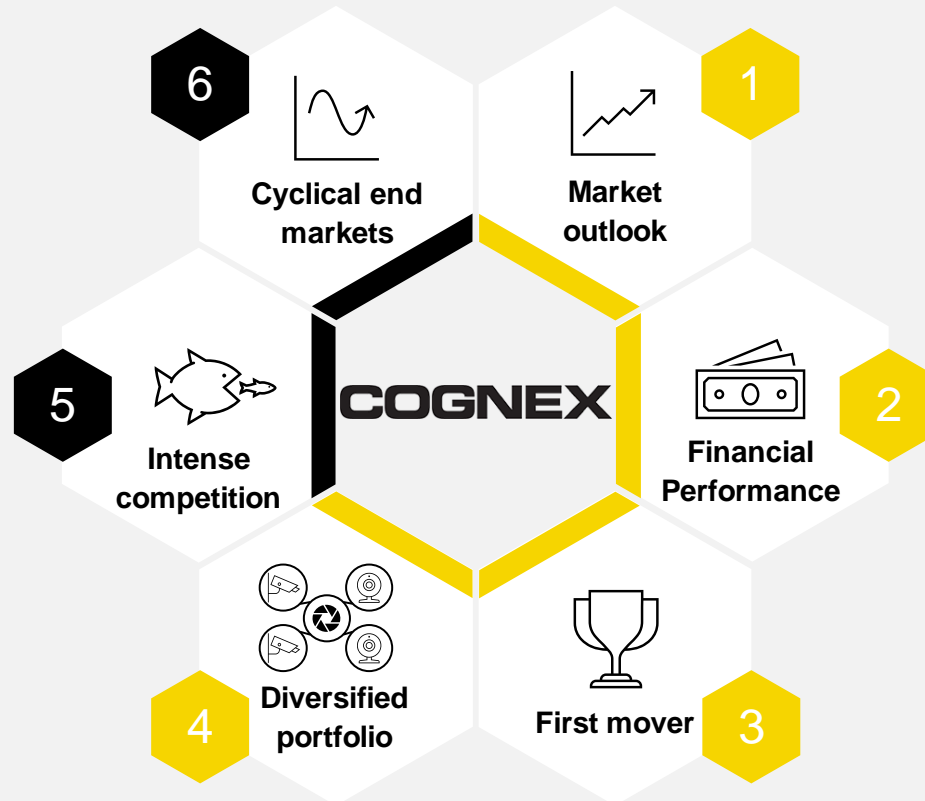
- [1] 28.10.2020 (+16.0%) – Cognex publishes earnings forecast with **increased expected sales** in consumer electronics and e-commerce sectors
- [2] 05.08.2021 (-5.4%) – Q2 2021 earnings call with **highest quarterly revenue** in Cognex's 40-year history, but difficult supply chain environment
- [3] 05.05.2022 (-31.0%) – Earnings call with disappointing results for Q1 2022
- [4] 08.12.2022 (+1.3%) – Cognex acquires **SAC Sirius** Advanced Cybernetics GmbH, a **German leader** in **lighting technology**
- [5] 25.08 - 29.08.2023 (+2.5%) – Cognex signs the acquisition of **Moritex**, a global leader in machine vision components, headquartered in **Japan**

Key Stats

- IPO:** 1989
- Ticker:** CGNX (NASDAQ)
- Close** (Jan 31): 36.91
- 52-week range:** USD 34.28 – 59.51
- Market capitalization:** USD 6.37B

Advanced machine vision solutions enable Cognex to catalyse on global automation growth

Key investment highlights



1

Cognex is **poised to capitalize** on the imminent **turnaround** in their **key end markets**

2

Track record of **strong top-line growth**, consistently **high margins** and a **debt-free balance sheet** define the financial performance

3

Cognex is an **early adopter** of new technologies, serving as one of the **main innovators** in the machine vision market

4

Highly diversified and superior **product portfolio** thanks to wide array of products within each segment

5

The machine vision market is **highly competitive** and Cognex must assert its presence against **large, established firms**

6

Relatively **cyclical end markets** introduce **vulnerability** to **economic downturns**, potentially impacting the demand for Cognex's products



Cognex

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Business Overview

Company Overview I

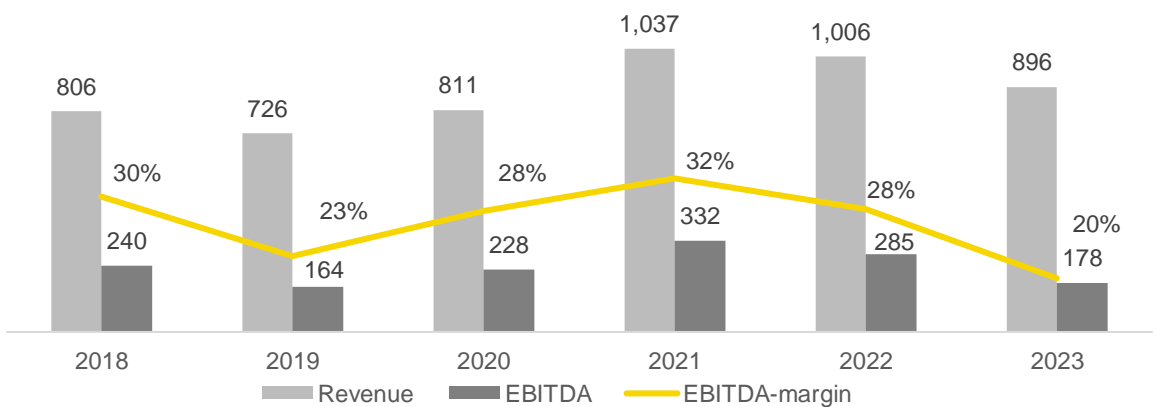
A global leader with a highly experienced management team and long-standing track record

Overview

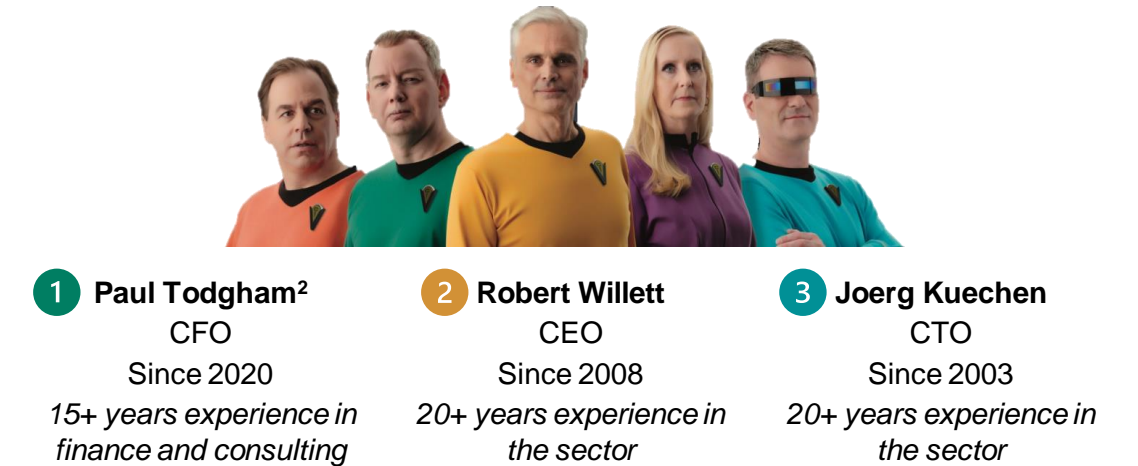
Cognex¹ is a **global leader** specializing in **machine vision systems, software, and sensors** used in **automated manufacturing** and **logistics** processes. Founded in 1981, Cognex offers **innovative solutions** to **various industries** such as **automotive, electronics, and consumer products**



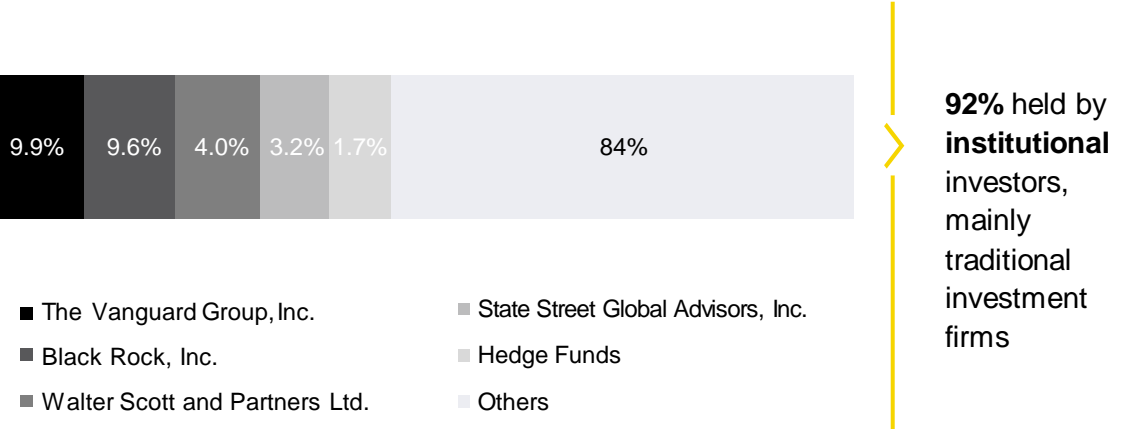
Financials (in \$mn)



Management



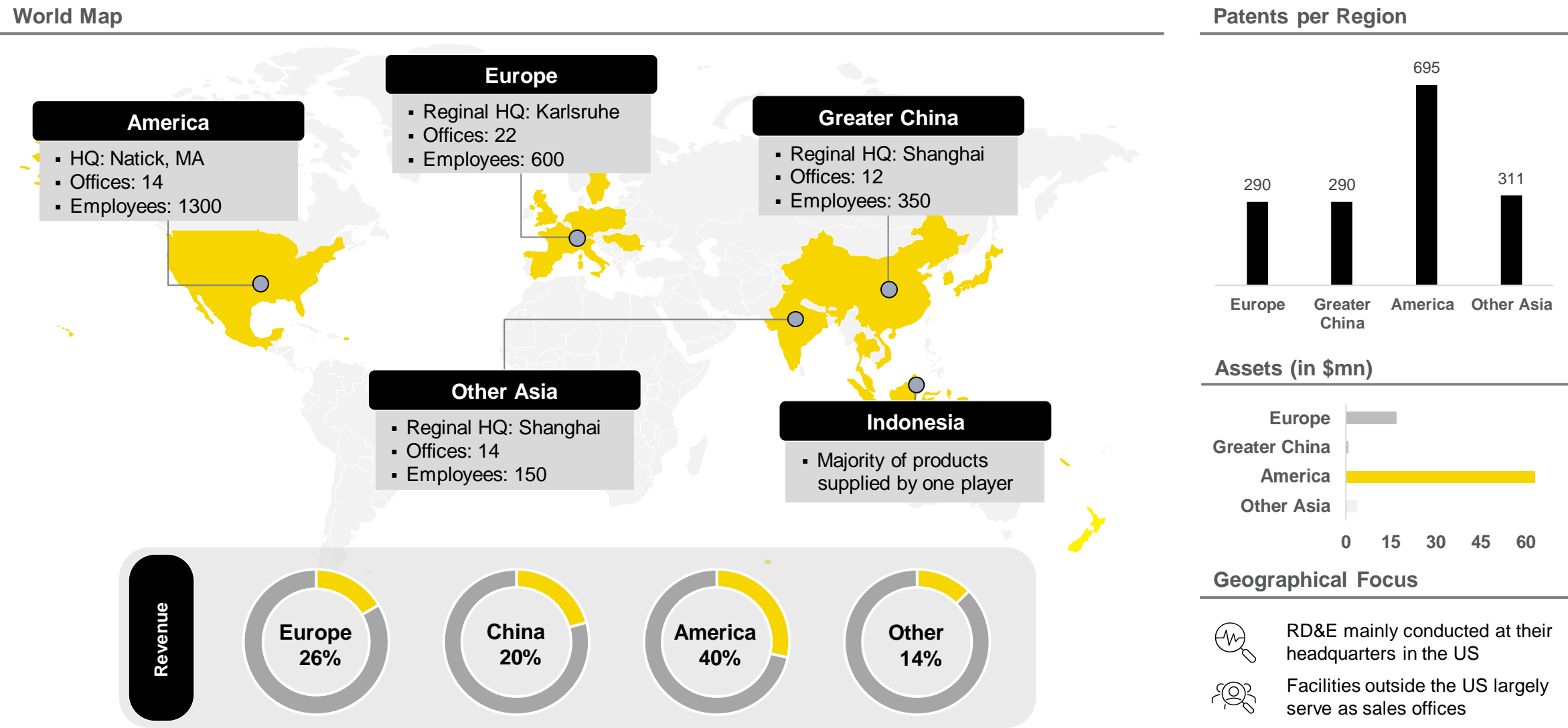
Shareholder Structure



Note: 1) Cognition Experts 2) resigned from his position effective March 15th, 2024
Source: Annual Report, Company Website, Capital IQ

Geographies






Cognex runs its business mainly in the US and EU with local sales offices all around the world










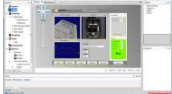

Company Overview II

Cognex offers a set of comprehensive and patented solutions across diverse end markets

End Markets

Automotive	Logistics	Consumer Electronics	Medical Related	Other
				
Machine vision solutions that enhance manufacturing , ensuring high-quality and efficient production in areas such as assembly and inspection	Systems optimizing distribution operations, enabling accurate tracking , sorting , and efficient management of goods	Technology that ensures the precision and quality control of electronic components, contributing to the production of reliable and high-performance devices	Advanced imaging and inspection capabilities, supporting the production of medical devices, ensuring compliance with stringent quality standards	Machine vision applications for manufacturers of semiconductors , food producers or manufacturers using 3D measurement
25% of sales	20% of sales	20% of sales	10% of sales	25% of sales

Product Segments

Vision Systems / Sensors	Barcode Readers	Vision Software / Tools
  	  	  
<ul style="list-style-type: none">Cognex vision systems provide exceptional accuracy for parts inspection, identification and guidanceThe industrial-grade vision systems integrate a range of advanced vision tools with fast image capturing and processing capabilities	<ul style="list-style-type: none">Cognex offers a comprehensive range of industrial barcode readers known for their durability, reliability, and unmatched read rates in the industryWith advanced technology, modular options, rugged design and intuitive setup, Cognex stands out as the preferred brand	<ul style="list-style-type: none">Cognex's machine vision software offers the forefront of vision technology, available in multiple formats tailored to meet diverse development requirementsThe patented algorithms produce solutions for diverse applications in virtually all manufacturing and logistics industry sectors

Cognex holds a total of **1,712 patents** worldwide, showcasing its **commitment to innovation and technological advancement**

Product Deep Dive I - Hardware

Cognex's products operate at the heart of virtually all manufacturing and logistics processes

Vision Systems

Barcode Reader: DataMan 380

- Image-based barcode reader providing **insightful, actionable** data by capturing and tracking product and package information in **high-speed** operations
- Powerful, **AI-assisted** decoding accelerating throughput during **multi-symbology** reading

Vision System: In-Sight D900

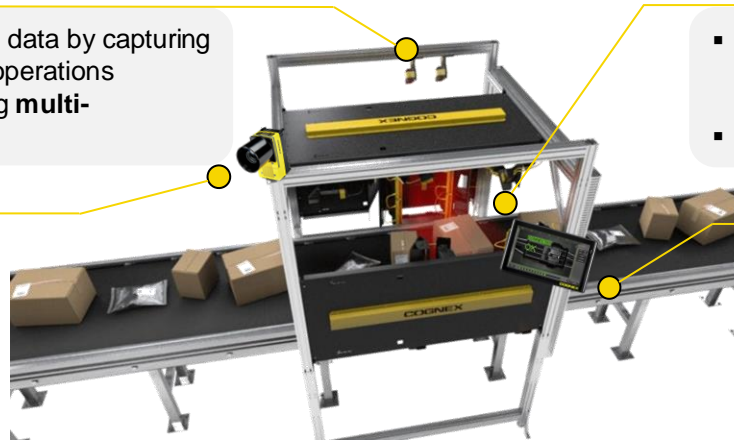
- Solves a range of tasks from **defect detection** to **assembly verification** and optical character recognition
- Processing takes place **on-device**, eliminating the need for a PC
- Embedded with powerful **edge learning tools** that leverage **AI technology** to learn "on the edge"

Vision System: In-Sight 3D-L4000

- 3D vision technology combining laser displacement technology with **smart camera** allowing to **quickly, accurately, and cost effectively** solve a wide variety of operations
- Patented** speckle-free blue laser optics

Software: VisionPro

- Industry-leading** PC-based vision software, designed to setup and deploy vision applications
- Wide range of functions, from **geometric object location** and **inspection** to **identification, measurement, and alignment**



Optical Components

Lens

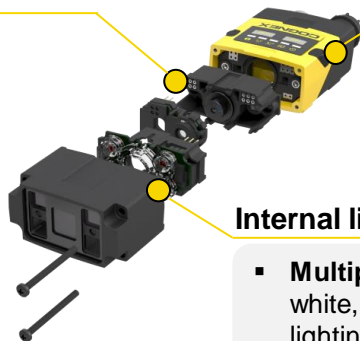
- Entered **high-end** optical components market through **Moritex** acquisition
- Ultra-high resolution, high-speed lens** allowing fast image setup and optical character

Base

- Multiple** power options and communication protocols enable fast and easy data transfers

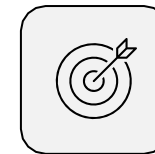
Internal lightning

- Multiple** options: red (standard), white, blue, infrared and ultraviolet lighting



USPs

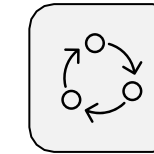
State-of-the-art technology, pushing the boundaries of **precision, innovation, and automation** delivering outstanding ease of **integration**, and **favorable total cost of ownership**



Performance and Accuracy



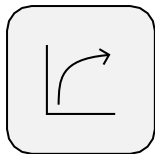
AI and Machine Learning



Flexibility and Adaptability



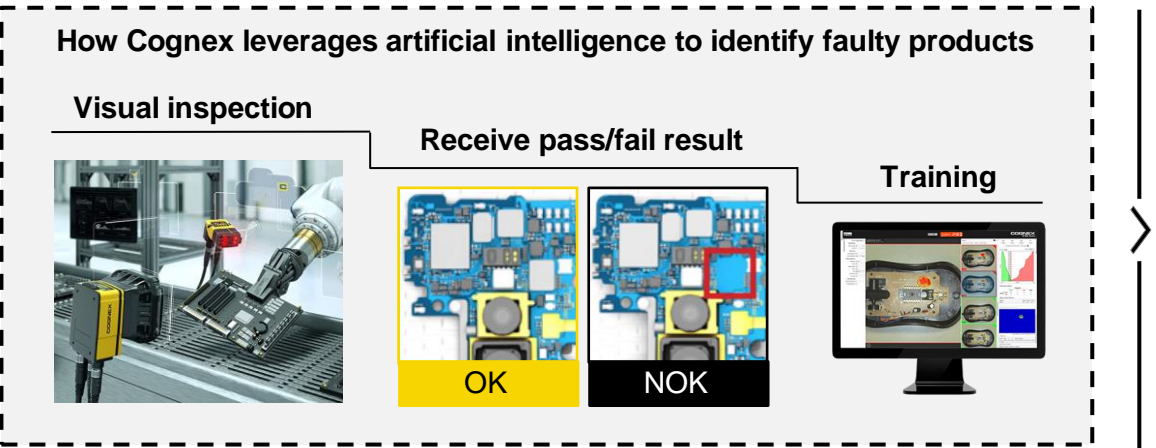
Cloud connected



Ease of Integration

Cognex is an early adopter of new technologies and fosters continuous innovation

Vision Systems



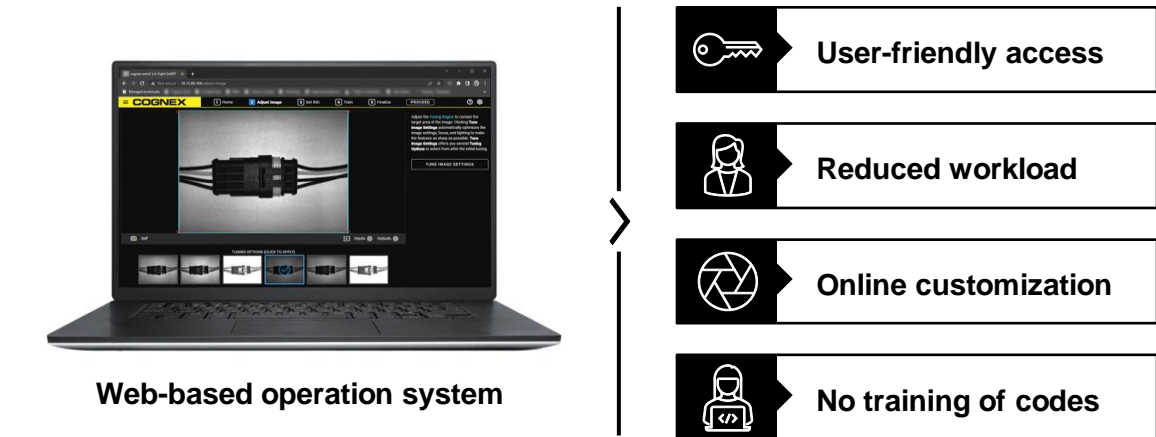
Main Advantages

Flexible functions
Solving a variety of problems such as anomaly detection and 2-class authentication, with only one device

Superior detection function
Inspection of multiple objects in a larger target area enabled by artificial intelligence

Usability
Web-based interface enables quick set-up without prior training and software knowledge

In-Sight SnApp



Product Features

Existing

Identify defects

Inspect labels

2-class classification

Inspect for debris

Detect missing parts

Under development

Optical character recognition

Assembly verification

4-class classification

Counting

Identification

Customers

Cognex's customer-centric approach elevates customer success and empowers industries worldwide

Customers

Automotive



Electronics & Logistics



Consumer Products & Other



Cognex boasts a **highly diversified, renowned, and enduring customer base**, reflecting its ability to establish **long-lasting relationships** across **diverse industries**

Customer Case Study



Schneider Electric (Chasseneuil, France)

Industry: Electronics

Objectives



Eliminate inconsistent quality associated with manual inspection



Increase efficiency of manufacturing processes using inspection data to optimize production parameters

Key Results



Higher overall product quality using AI-based inspection technology



Reduced waste by adjusting machine parameters and increased speed of delivery

Cognex Solution: In-Sight 2800, D900 & 3D-L4000, Vision Pro Deep Learning, Cameras, and DataMan 8700 Series



Josef Manner Group (Perg, Austria)

Industry: Food & Beverage

Objectives



Products in correct and air-tight packaging



Detailed inspection before the chocolate leaves the factory for distribution

Key Results



Detected packaging characteristics quicker, more flexible and efficient; identifies defects faster




Increase in productivity of 5%


Cognex Solution: In-Sight machine vision system

Extensive RD&E efforts coupled with strategic acquisitions underscore Cognex's dedication to innovation and growth


Research, Development & Engineering




Technology leader in the machine vision industry



Early adopter of new market generation with AI and machine learning



Consistently attributing ~15% of their Revenue to R&D spending



Focus on application software development

Deep Learning Software

- Collaboration with Dell Technologies
- Development of Cognex's Vision Pro/Designer software
- Edge compute-based software for factory automation
- Used for neural network training and operation



Digital Watermark Labels

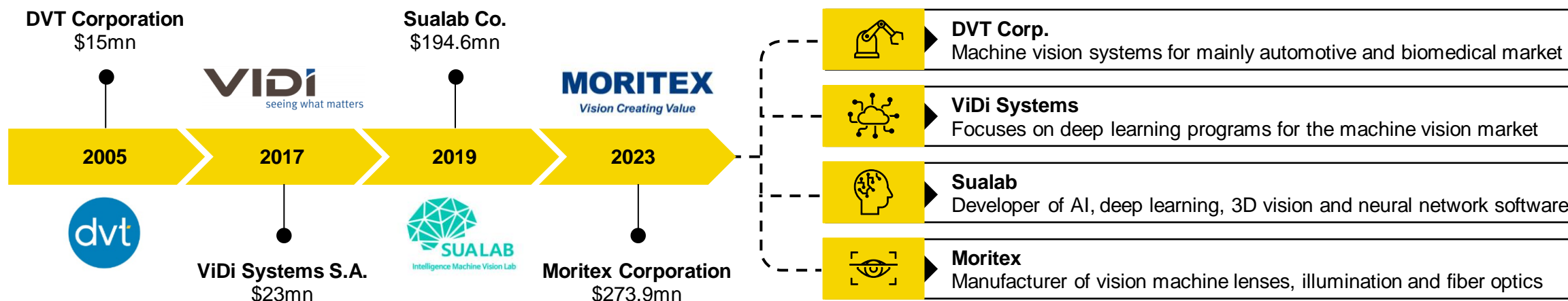
- Case study with Digimarc Corporation and P&G
- Quality control application for special food grade labels
- Application that uses P&G's internal product identifiers
- Automation enables increased efficiency and cost savings



Research Partners



Mergers & Acquisitions





Cognex

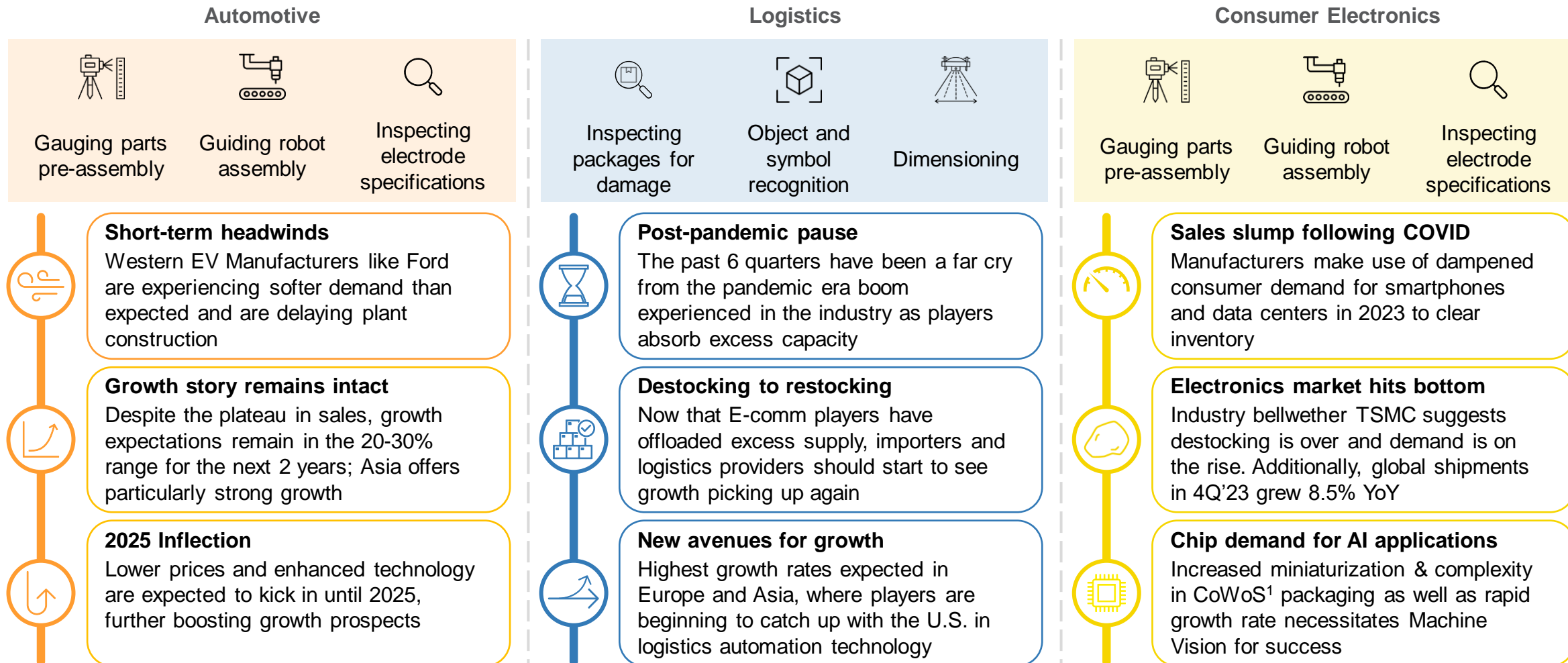
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Market and Industry Overview

Market Overview – End Markets I

Cognex's primary markets are on the brink of a robust resurgence, driven by powerful catalysts

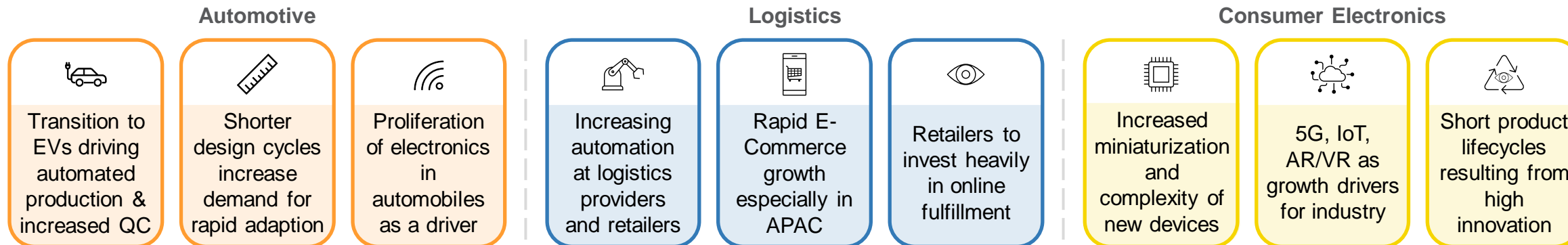
Use Cases and Outlook



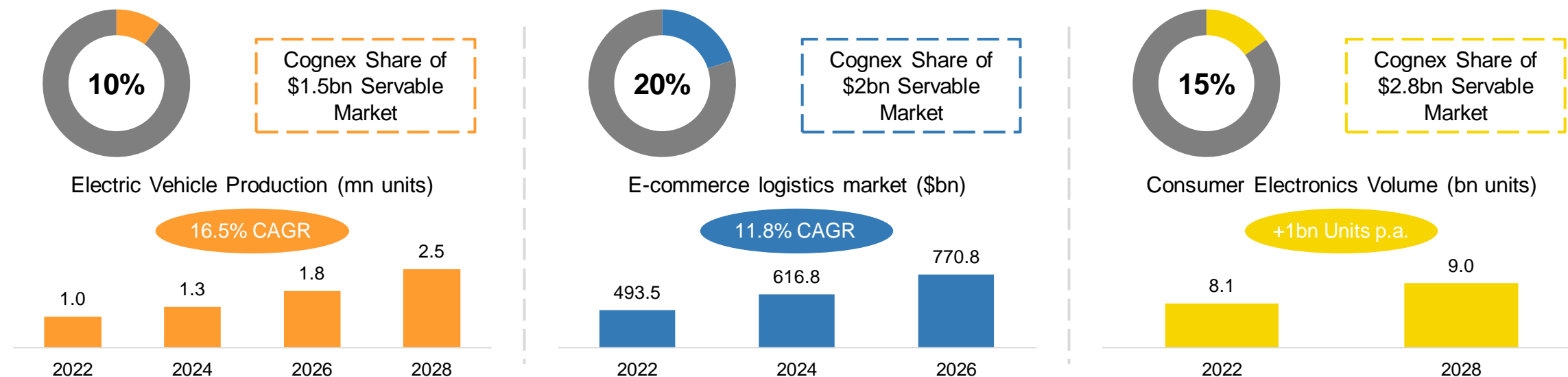
Market Overview – End Markets II

Expanding addressable markets substantiated by tangible trends and concrete data

Prevailing Trends



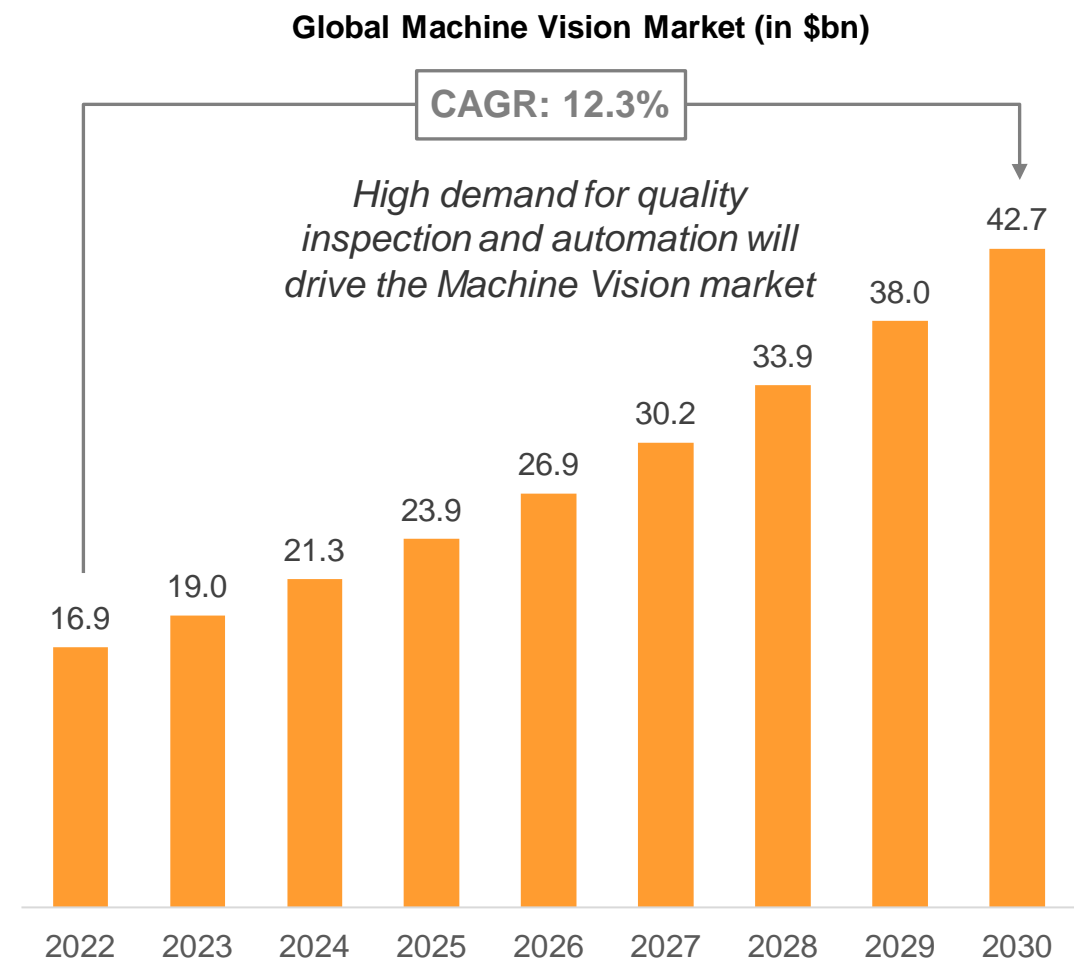
Market Size and Growth




Market Trends and Drivers

Fast-paced innovation and structural changes result in growing MV market and uptick in demand for Cognex's products


MV Market Size




Market Growth Drivers & Trends




Increasing automation in manufacturing:
Global industrial automation trends increase demand for Cognex's MV technologies, essential for improving efficiency & quality control




Global supply chain optimization:
Companies looking to optimize global supply chains are investing in automation and tracking technologies




Expansion in robotics applications:
Robotics application in industries like manufacturing and healthcare offer opportunities for Cognex's technology in guidance & inspection



Rise of smart factories and industry 4.0:
The shift towards smart factories and the adoption of Industry 4.0 principles underpin the need for Cognex's systems



Automotive industry advancements:
Advancements in the automotive industry, especially in electric vehicles, require high precision parts and assembly



Increased focus on quality and compliance:
Stricter quality control standards and regulatory compliance across industries necessitate the use of precise inspection systems

Cognex & the Machine Vision Market

The MV market faces certain threats that are clearly overshadowed by the plentiful opportunities for Cognex

Threats

Opportunities



The imposition of **protectionist trade policies** by major economies like **China** could **restrict market access** or increase tariffs on Cognex's products



Cognex relies heavily on **single-source** or **few-source suppliers** for essential components, presenting the risk of **production hold-ups** or other issues



A **downturn** in **key end markets** like the automotive industry could lead to **reduced demand** for Cognex's machine vision products



New regulations could **restrict** the use of machine vision in certain **applications** or increase the cost of compliance

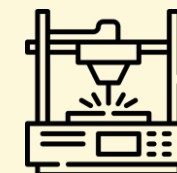
Ongoing **advancements in AI** and machine learning enable Cognex to develop more **sophisticated** and efficient vision **systems**



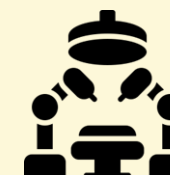
Government policies favoring the procurement of **green technology** boost the market for Cognex's products if they are recognized as **environmentally friendly**



The rise of **3D printing technology** could change manufacturing processes, creating a need for advanced vision systems to inspect complex geometries, providing a **new market** for Cognex



Increasing adoption of automation across various industries offers a **growing market** for Cognex





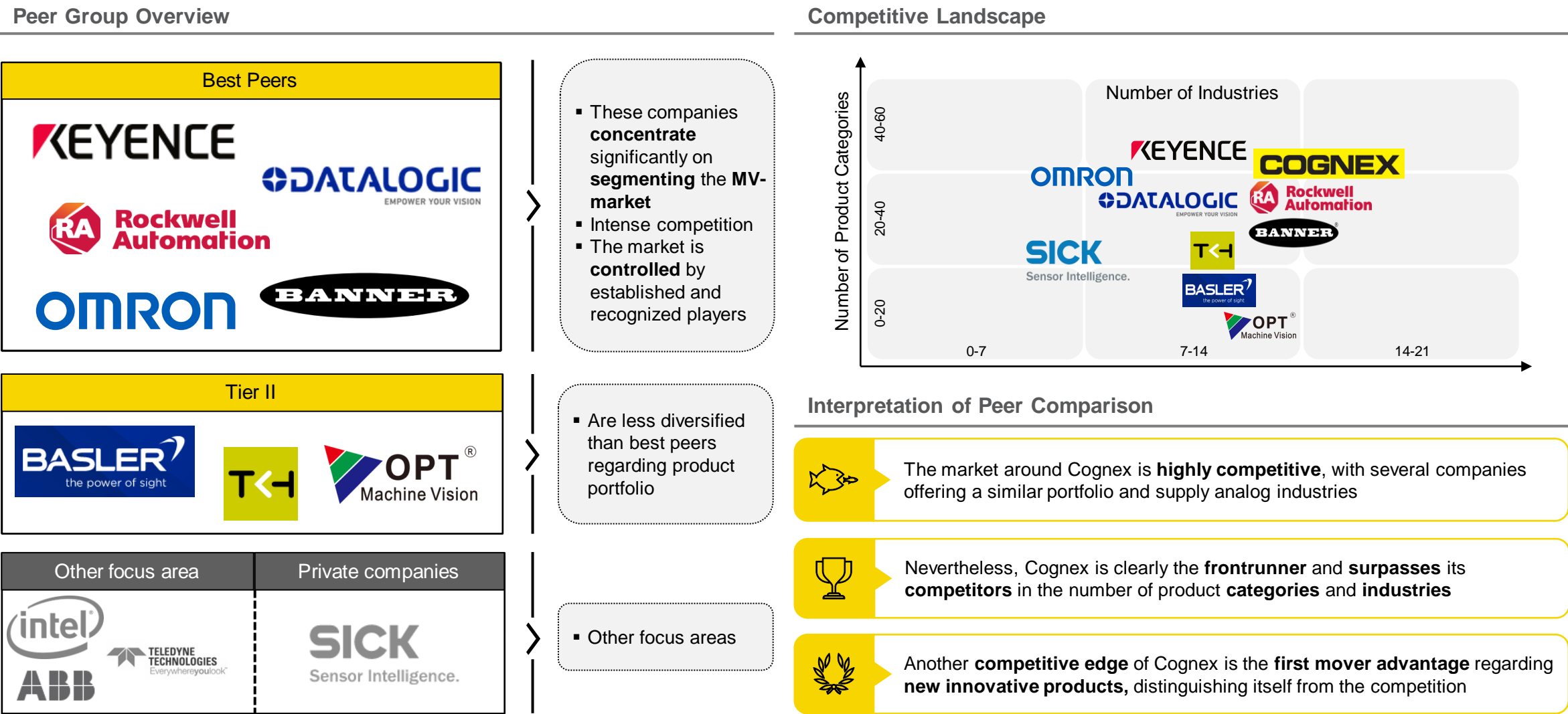
Cognex

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Peer Analysis

Peer Group Analysis

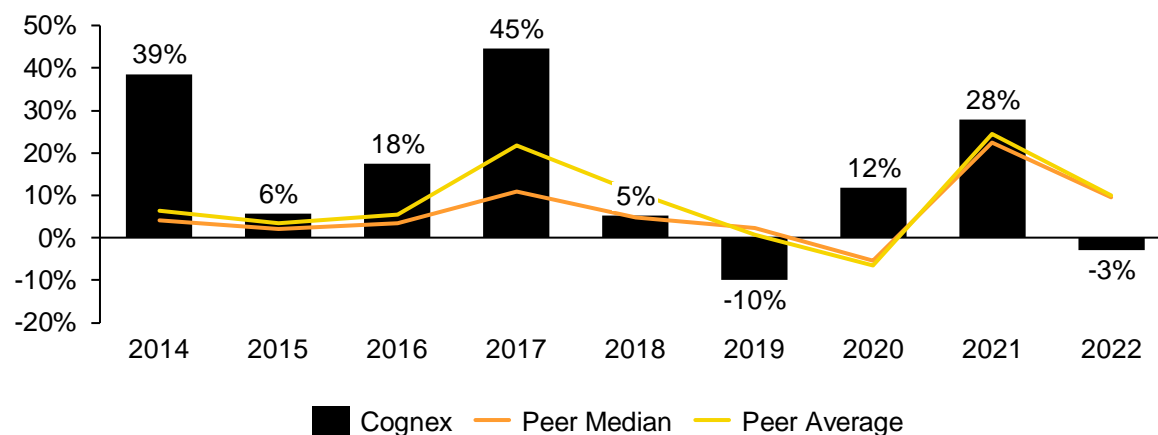
Cognex operates at the forefront of the highly competitive MV market



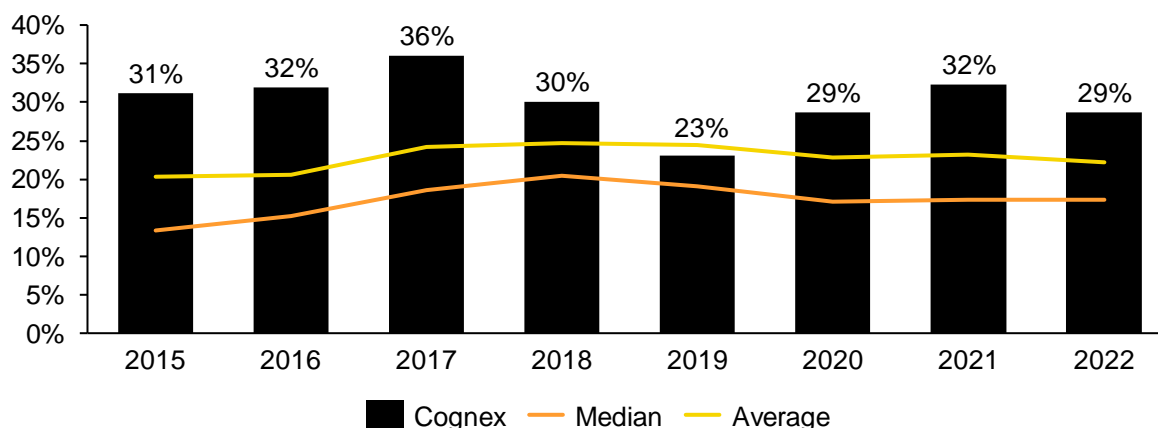
Peer Benchmarking I

Cognex leads the way in top-line growth and profitability in a volatile industry

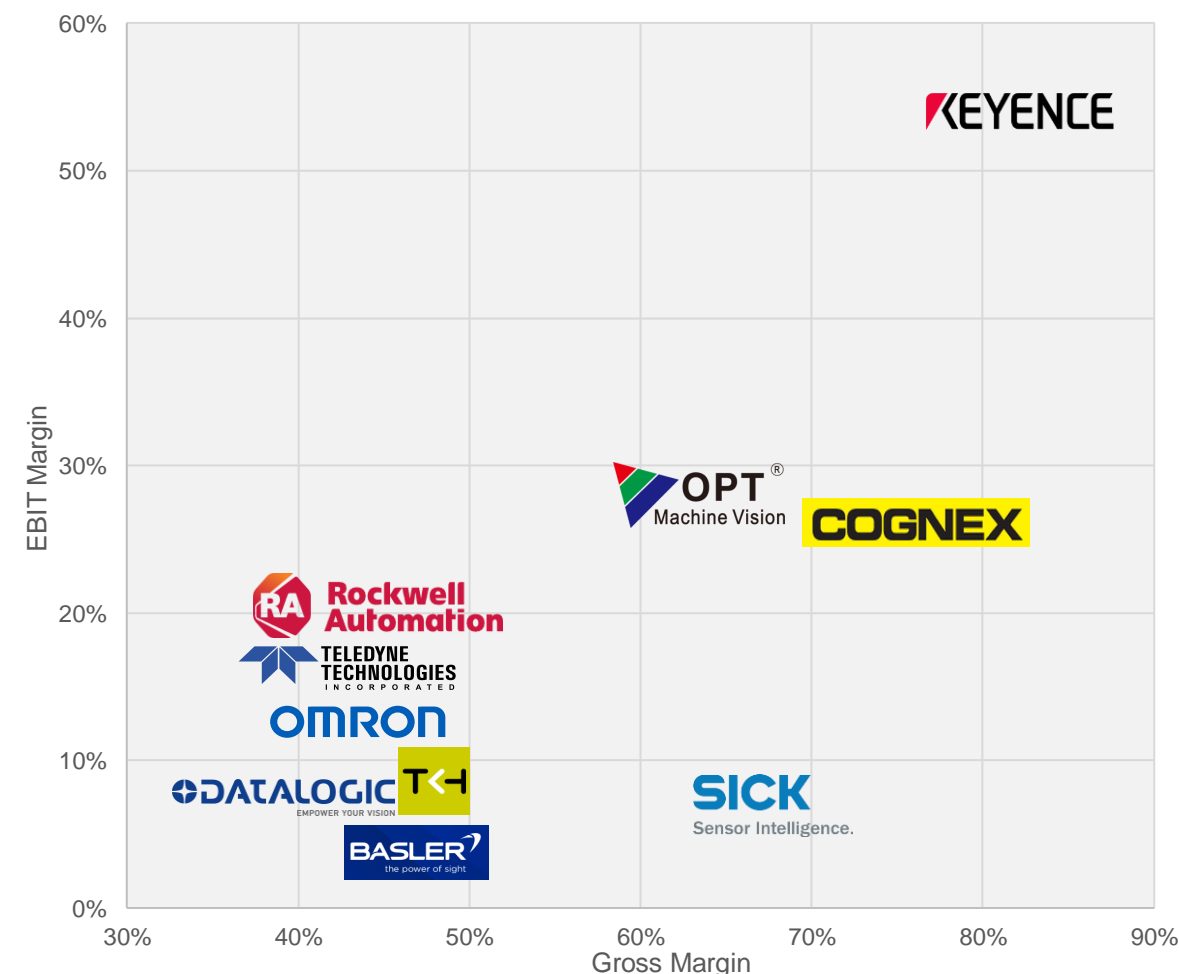
Historical Revenue Growth



EBITDA Margin Development

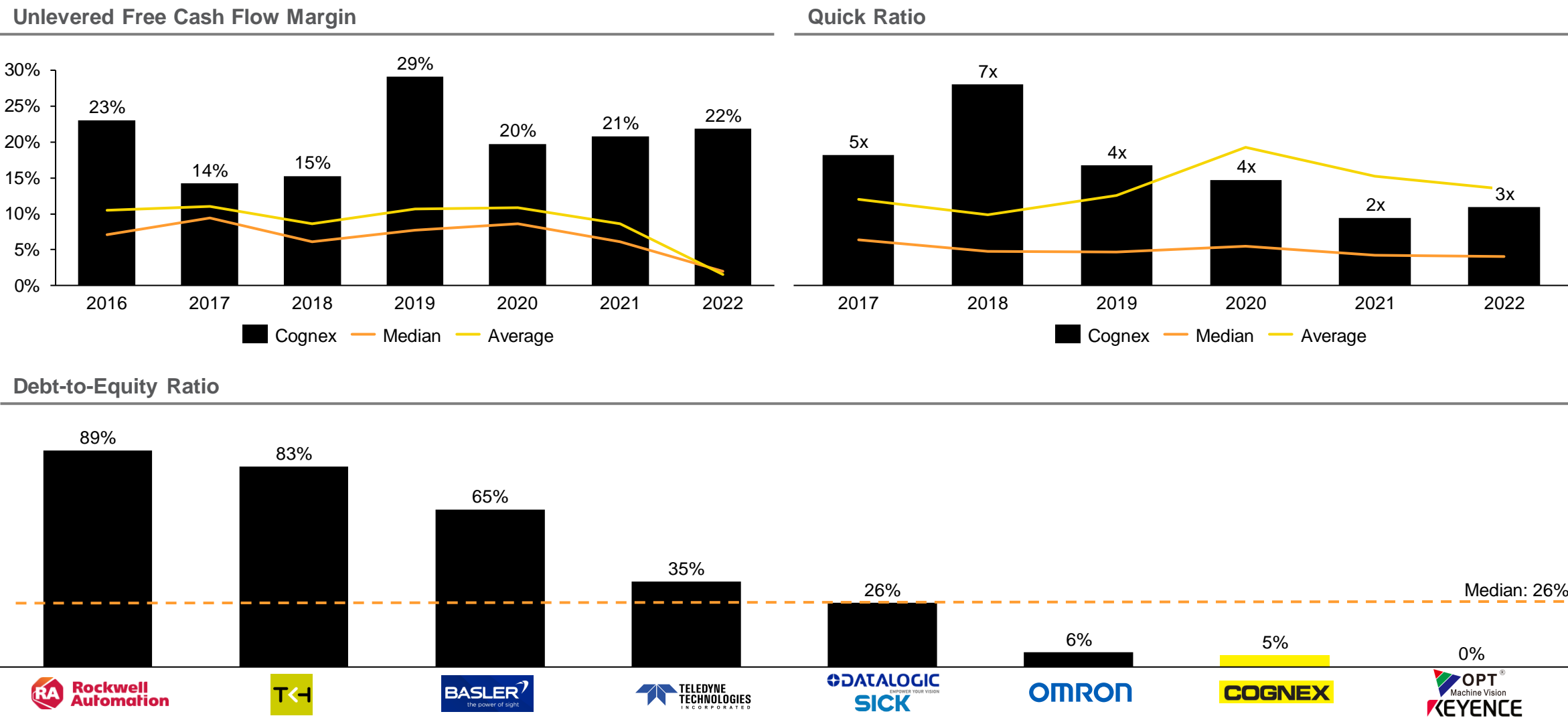


Margin Benchmarking



Peer Benchmarking II

Cognex's financial strength and resulting agility result in better performance during industry downturns



A close-up photograph of a Cognex vision sensor. The device has a yellow upper housing with the 'COGNEX' logo and a black lower housing. It features a control panel with several indicator lights and a cable connected to its side. The sensor is mounted on a metal bracket, and its base is illuminated with blue light.

Cognex

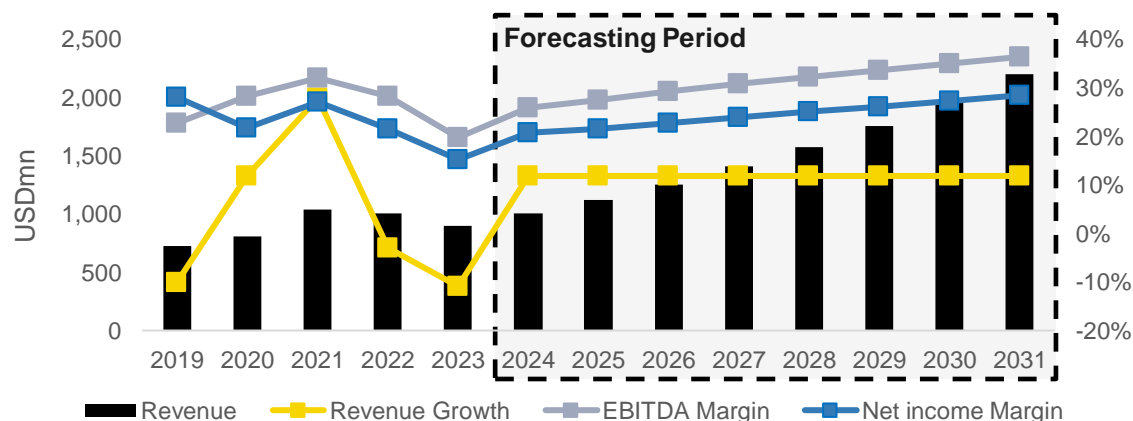
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Financials and Valuation

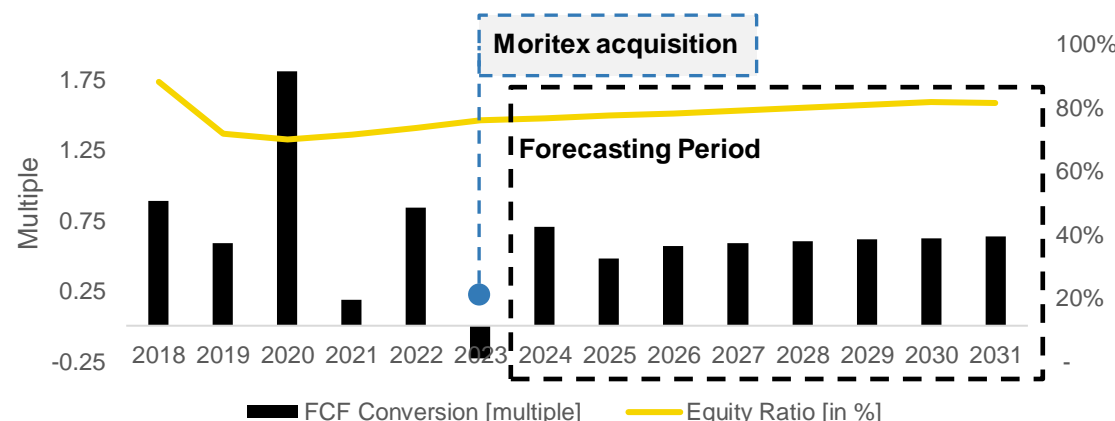
Financials & Valuation I

Cognex is poised to recover from recent industry downturn and return to historical average performance

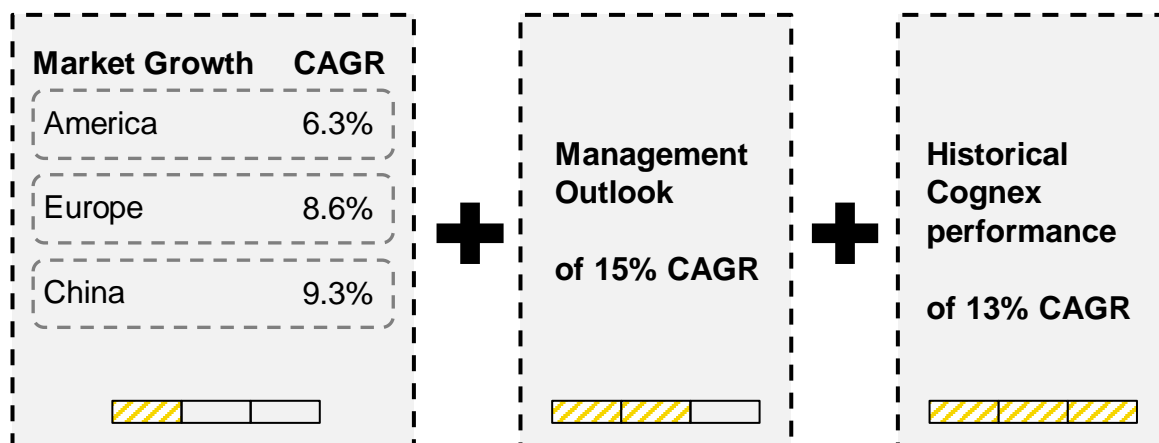
Revenue & Margin Development



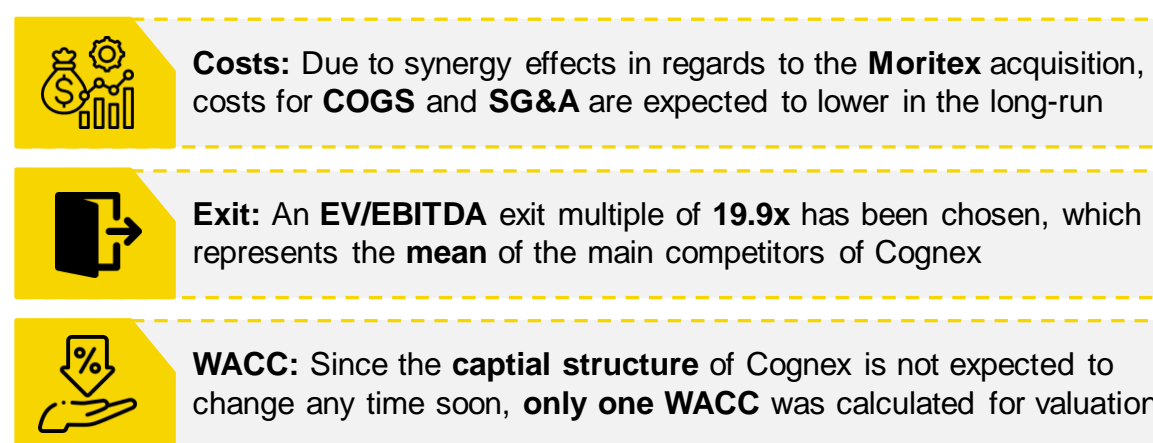
Free Cash Flow Conversion and Equity Ratio



Revenue Forecast Rationale

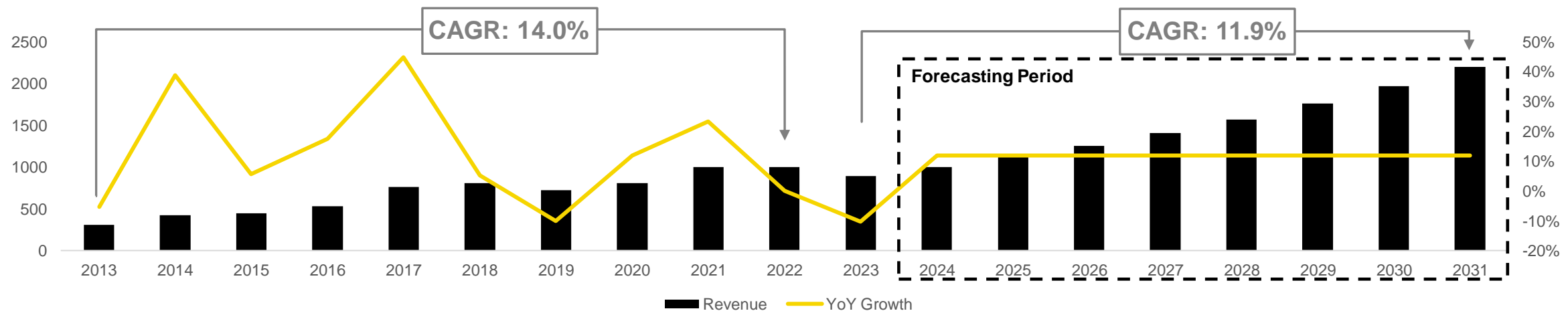


Assumptions

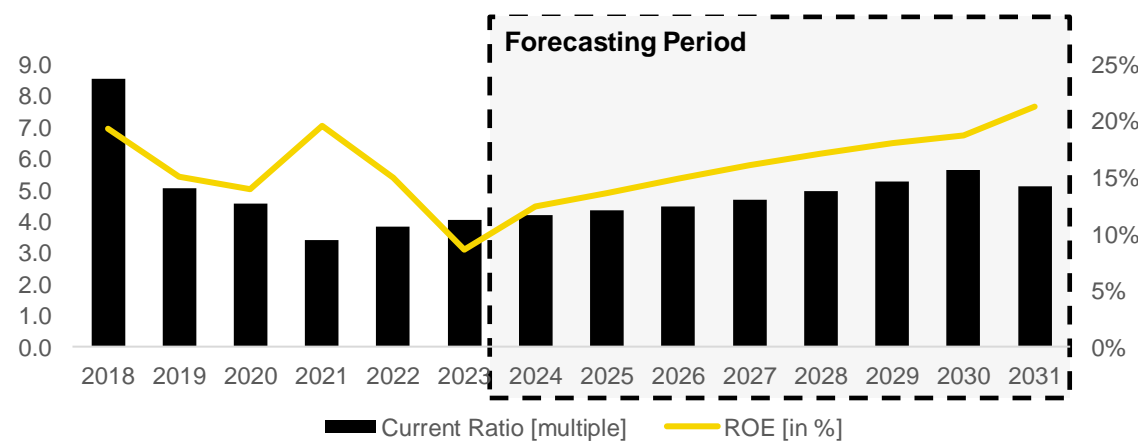


Projected revenue forecast exhibits a modest decrease compared to historical performance

Historical Revenue Growth Implies that Cognex Could Be Entering a Bull Market



Current Ratio and Return On Equity



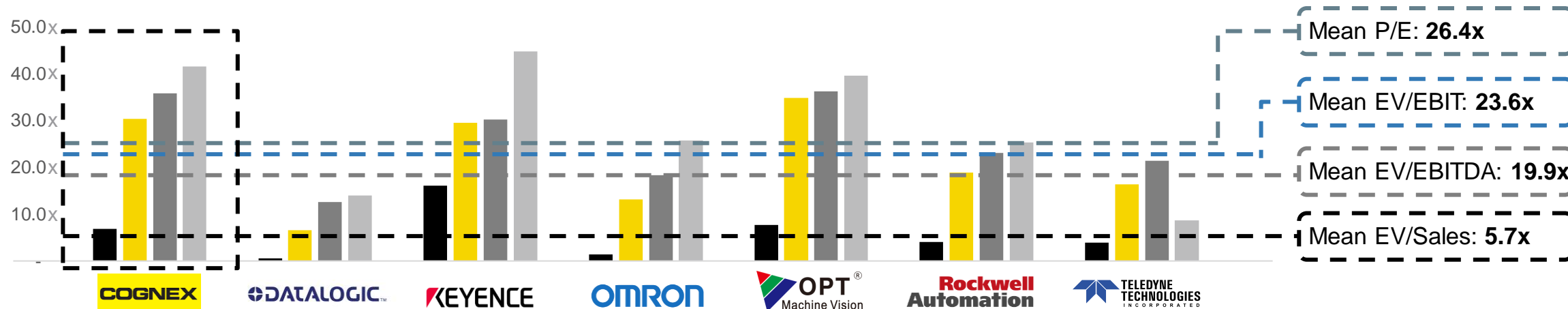
WACC Sensitivity Table of the Share Price

		Growth Rate				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC	8.2%	44.14	45.18	46.42	47.92	49.77
	8.7%	43.31	44.20	45.24	46.48	47.99
	9.2%	42.59	43.36	44.25	45.30	46.55
	9.7%	41.96	42.64	43.41	44.31	45.36
	10.2%	41.41	42.01	42.68	43.46	44.36

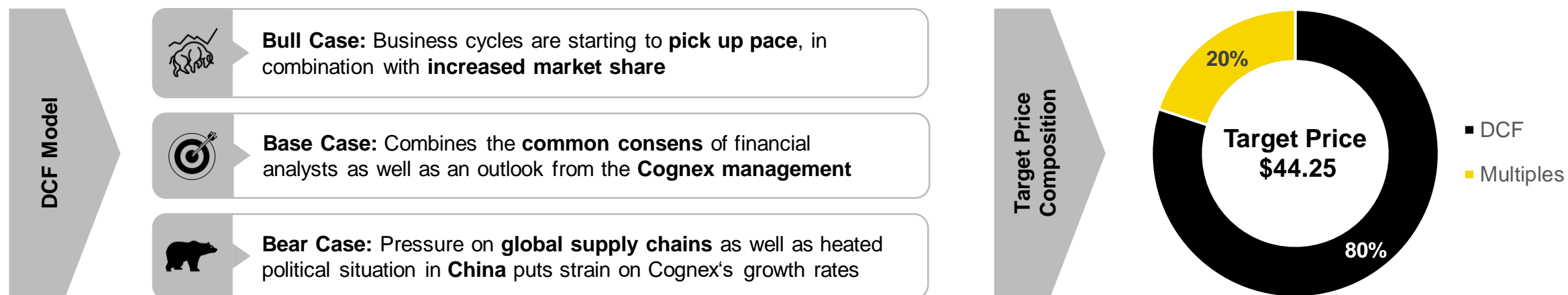
Financials & Valuation III

Valuation indicates a good entry point amid some future growth being already priced in

Multiples Valuation with Cognex's Main Competitors



Valuation Summary





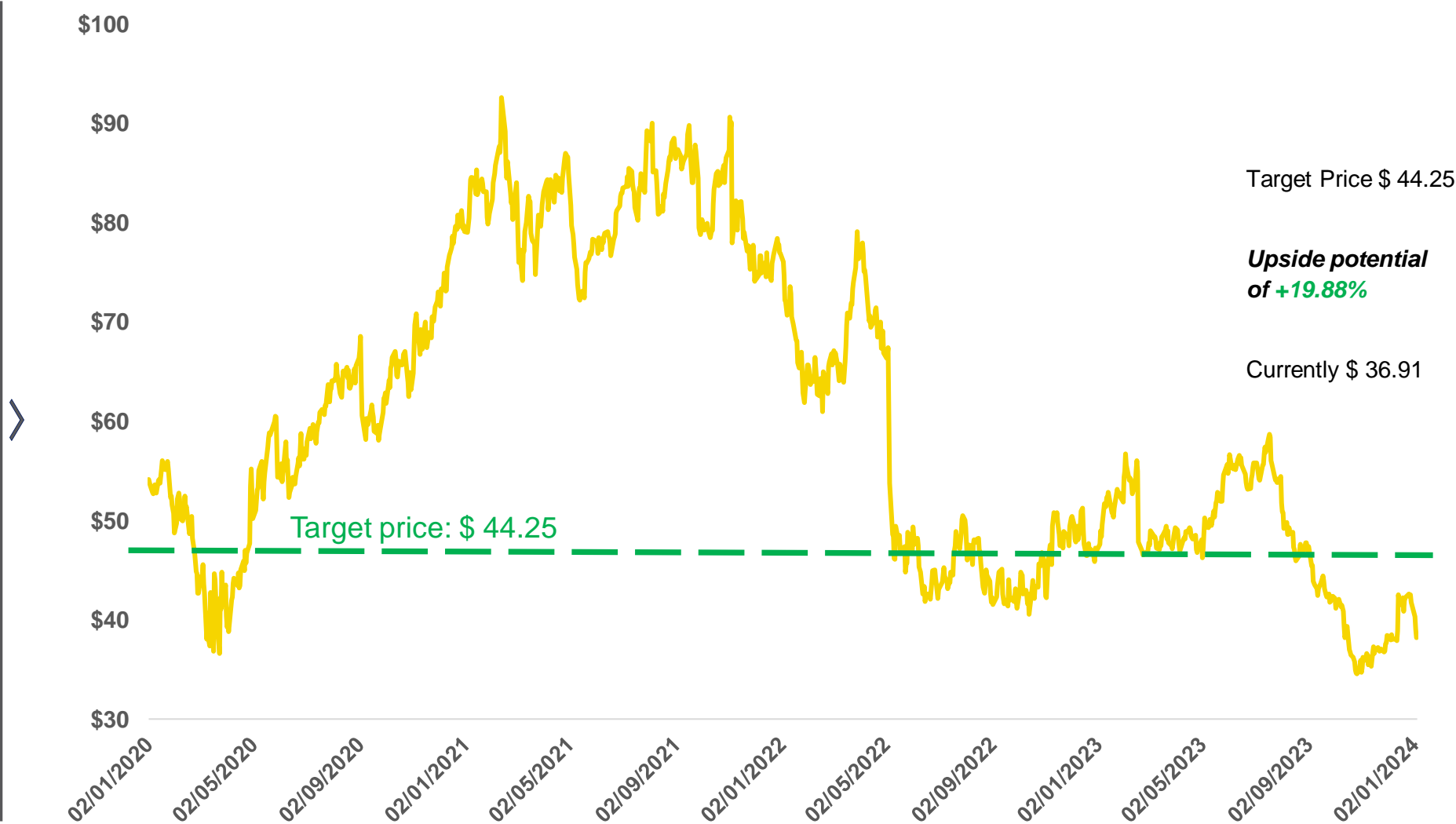
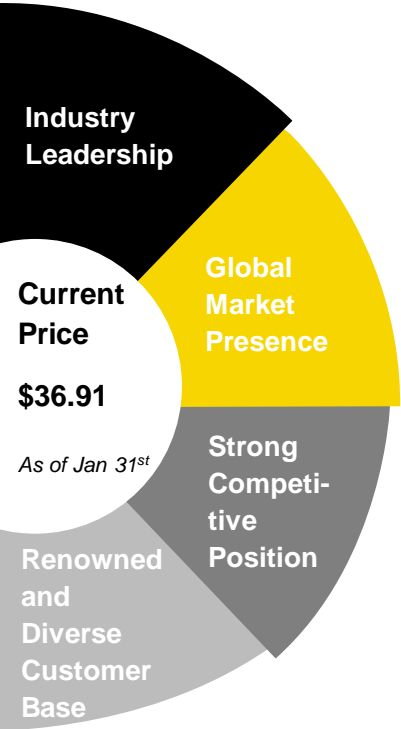
Cognex

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Conclusion

Conclusion

It's far better to buy a wonderful company at a fair price than a fair company at a wonderful price





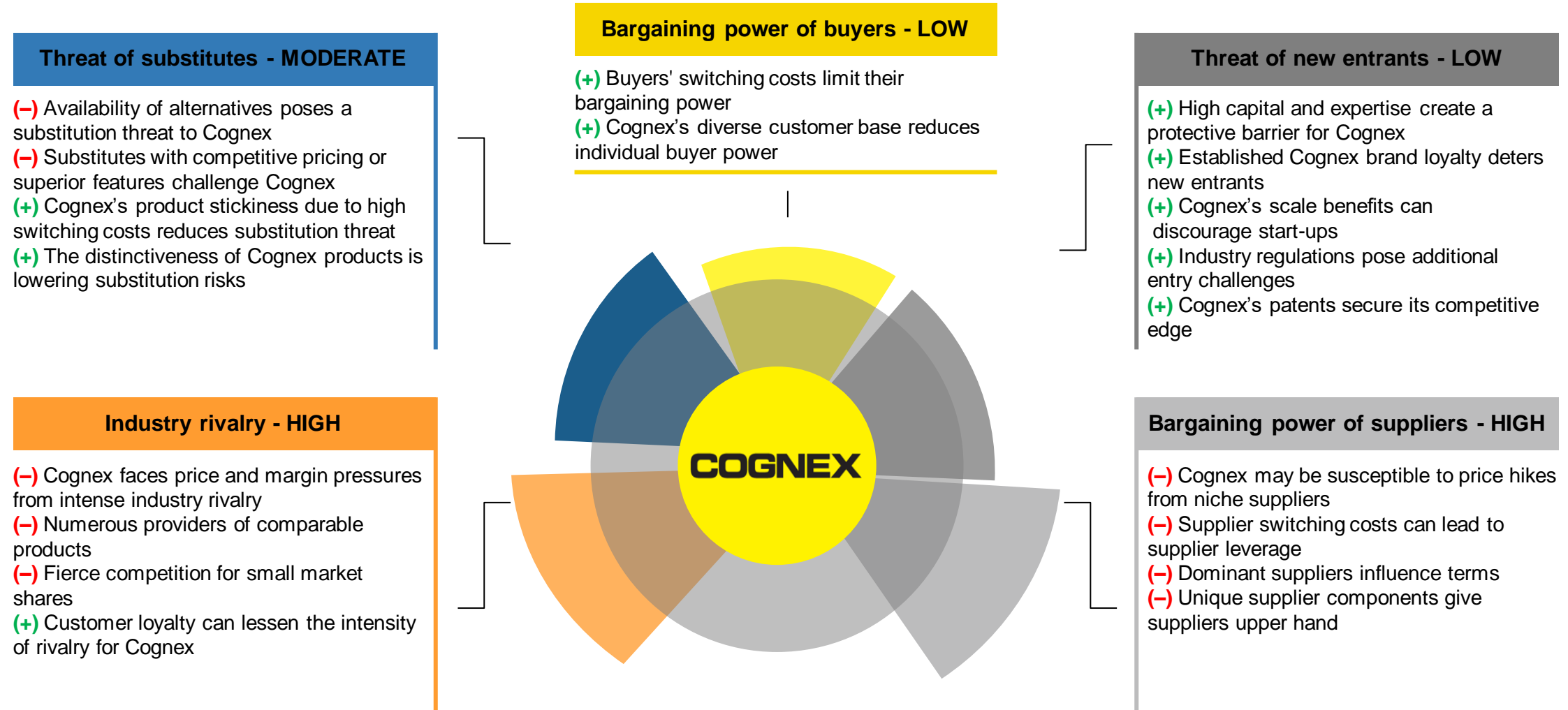
Cognex

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Appendix

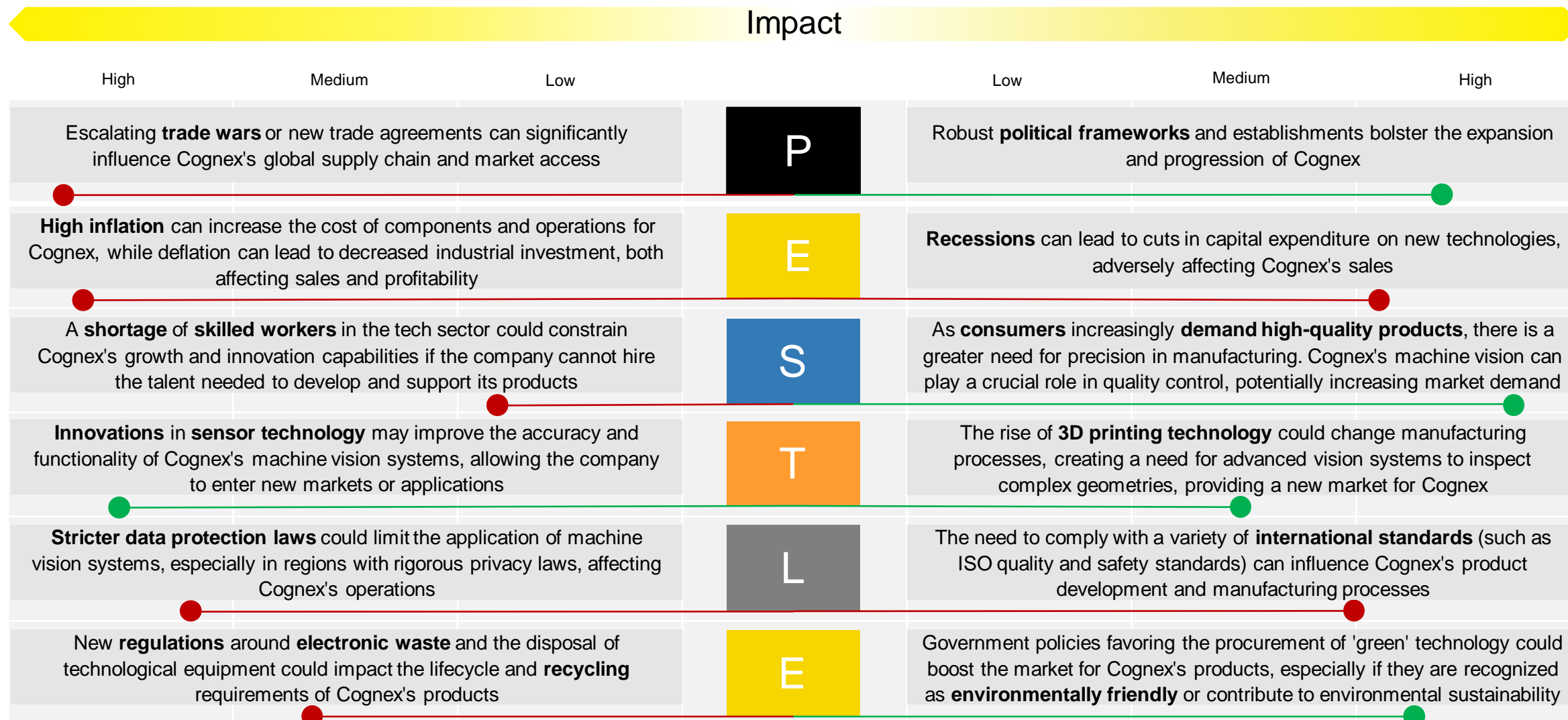
Porter's 5 Forces

Mastering the market: Cognex's strategic edge in high-stakes industry rivalry



PESTLE Analysis

Cognex is exposed to various risks and opportunities arising from macro-environmental factors



SWOT Analysis

Strength and opportunities surpass weaknesses and threats

- Cognex is **recognized** for its **advanced machine vision** and industrial barcode reader technologies, which are critical for automation and quality control in manufacturing
- With **operations in over 40 countries**, Cognex has a **broad market reach** and a **diverse customer base**, enhancing its stability and market penetration
- The company **invests** significantly in **research and development**, ensuring continuous innovation and staying ahead in technology advancements

- **Increasing** adoption of **automation** across various industries offers a **growing market** for Cognex's products
- Ongoing **advancements in AI** and machine learning can enable Cognex to develop more sophisticated and efficient vision systems
- **Emerging markets and new sectors** like healthcare or logistics provide opportunities for business expansion
- **Key end markets** are expecting to have **high growth rates** in the future

COGNEX

- A large portion of Cognex's revenue comes from the **automotive, logistics and electronics** sector, making it **susceptible to downturns** in this industry
- The machine vision industry is **highly competitive**, with many established companies and new entrants. Cognex must **continually innovate** and distinguish its offerings to stay ahead

- International **trade conflicts** and tariffs can **impact supply chains** and market access, affecting Cognex's global operations
- **Economic slowdowns**, especially in **key markets** like automotive, logistics reduce demand for Cognex's products
- Changes in interest rates lead to an unstable financial and economic climate

Risk Matrix

- M1

In an industry where buyers highly prioritize efficiency and technology, there is **intense competition** among companies
- M2

The imposition of **protectionist trade policies** by major economies like **China** could **restrict market access** or increase tariffs on Cognex's international sales
- O1

Approximately **65%** of the **revenue** comes from **automotive, logistics** and **consumer electronics**. Downturns in these industries cause risks for Cognex's business
- O2

Sole-source or **limited-source suppliers** for critical components could pose risks of production delays if suppliers face **disruptions** or have other problems like warehouse fire, which Cognex's main supplier had
- F1

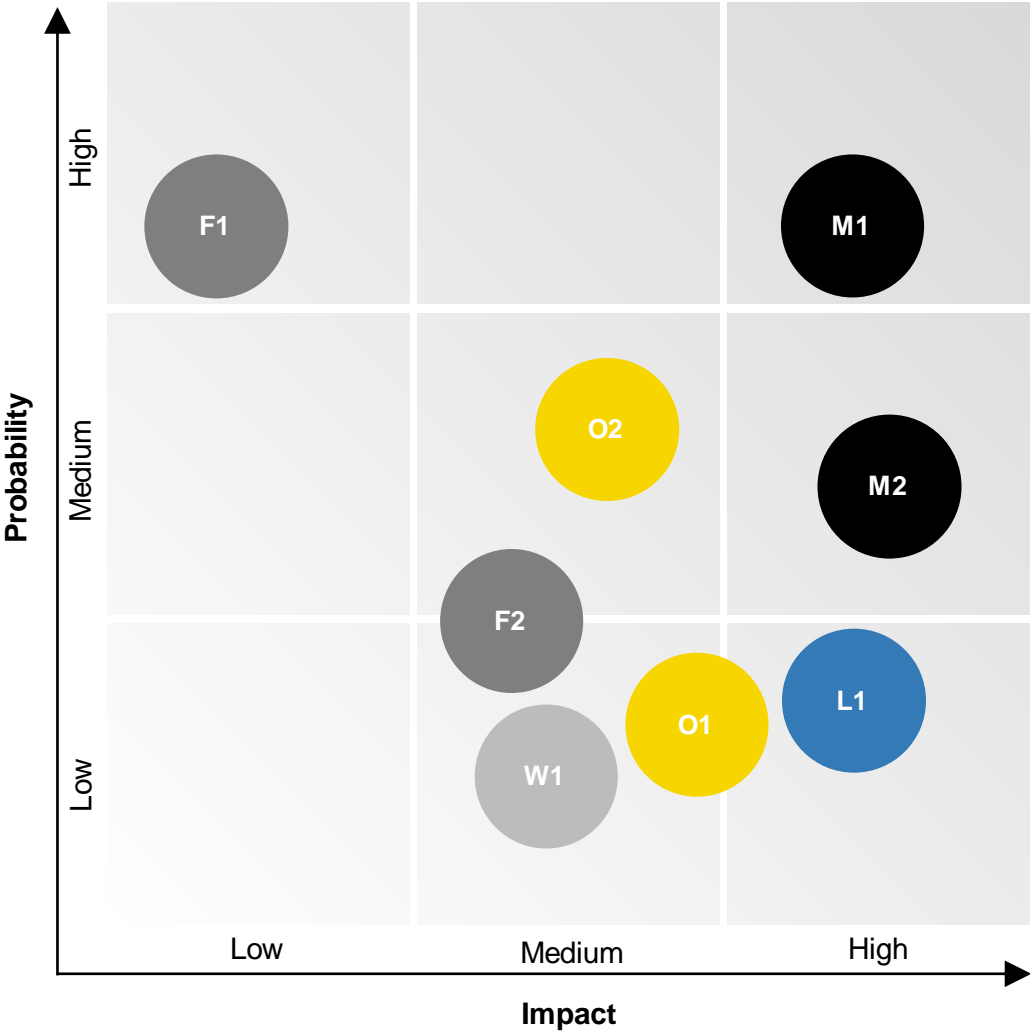
There's a risk that customers or partners may **default** on their **payments** due to **rising interest rates**, which would negatively affect Cognex's cash flow
- F2

The need to intensify **R&D** to keep up with rapid technological evolution could lead to fluctuations in financial planning and budgeting
- W1

Difficulty in attracting and **retaining talent** in specialized fields such as optics and robotics could impede innovation
- L1

A competitive advantage that is partially reliant on **patents**, which require protection and enforcement across different legal jurisdictions

Market (M) – Operations (O) – Financial (F) – Workforce (W) – Legislation (L)



Valuation and Financial Model I

Income statement

Income Statement	Units:	Historical Period						Forecasting Period							
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Revenue	USDm	806	726	811	1,037	1,006	896	1,003	1,122	1,255	1,405	1,572	1,758	1,967	2,201
YoY Growth	%		(10%)	12%	28%	(3%)	(11%)	12%	12%	12%	12%	12%	12%	12%	12%
COGS	USDm	(206)	(190)	(206)	(277)	(284)	(269)	(293)	(321)	(352)	(385)	(421)	(461)	(504)	(550)
Gross profit	USDm	600	536	605	760	722	627	710	801	904	1,020	1,150	1,298	1,464	1,651
Gross margin %	%	74%	74%	75%	73%	72%	70%	71%	71%	72%	73%	73%	74%	74%	75%
SG&A expenses	USDm	(244)	(252)	(245)	(293)	(296)	(308)	(300)	(332)	(365)	(402)	(444)	(491)	(545)	(604)
R&D and Engineering	USDm	(116)	(119)	(131)	(135)	(141)	(142)	(150)	(162)	(173)	(186)	(200)	(215)	(231)	(248)
in % of revenue	%	14%	16%	16%	13%	14%	16%	15%	14%	14%	13%	13%	12%	12%	11%
EBITDA	USDm	240	164	228	332	285	178	259	307	366	432	507	591	688	798
EBITDA margin %	%	30%	23%	28%	32%	28%	20%	26%	27%	29%	31%	32%	34%	35%	36%
D&A	USDm	(18)	(22)	(22)	(17)	(16)	(17)	(13)	(18)	(23)	(28)	(32)	(36)	(39)	(43)
OPEX	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBIT	USDm	221	143	206	315	269	161	247	289	342	404	474	555	649	756
EBIT margin	%	27%	20%	25%	30%	27%	18%	25%	26%	27%	29%	30%	32%	33%	34%
Interest expense	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest income	USDm	15	20	13	7	7	15	15	17	19	21	24	27	30	33
Unusual items	USDm	(1)	1	(32)	(3)	(25)	(4)	-	-	-	-	-	-	-	-
FX Gains (Loss)	USDm	(1)	(1)	4	(2)	(2)	(7)	-	-	-	-	-	-	-	-
Other OPIN	USDm	(0)	(0)	(0)	(1)	(0)	0	-	-	-	-	-	-	-	-
Restructuring	USDm	-	-	(16)	-	(2)	(2)	-	-	-	-	-	-	-	-
Impairment of GW	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asset writedown	USDm	-	-	(20)	-	-	-	-	-	-	-	-	-	-	-
Other unusual items	USDm	0	1	0	-	(21)	5	-	-	-	-	-	-	-	-
EBT	USDm	235	163	187	319	251	172	262	306	362	425	498	582	679	789
Income tax	USDm	(15)	41	(11)	(39)	(35)	(36)	(55)	(64)	(76)	(89)	(105)	(122)	(143)	(166)
Net profit	USDm	219	204	176	280	216	136	207	242	286	336	393	460	536	624
Net profit margin	%	27%	28%	22%	27%	21%	15%	21%	22%	23%	24%	25%	26%	27%	28%

Valuation and Financial Model II

Balance Sheet

Balance Sheet	Units:	Historical Period						Forecasting Period							
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Cash and cash equivalents	USDm	108	171	269	186	181	146	212	228	289	378	499	657	858	807
Short term investments	USDm	427	240	103	137	219	219	211	236	264	296	331	370	414	463
Accounts receivable	USDm	127	108	131	134	128	132	146	163	172	181	190	198	205	212
Other receivables	USDm	-	3	2	3	4	4	2	3	3	3	4	4	5	5
Inventory	USDm	83	60	61	113	122	122	113	124	126	127	128	127	125	121
Prepaid expenses	USDm	30	19	29	55	49	49	43	48	54	60	67	75	84	94
Other current assets	USDm	4	5	7	11	15	15	10	11	13	14	16	18	20	22
Total current assets	USDm	780	607	602	640	718	687	737	813	921	1,060	1,235	1,450	1,711	1,726
Property, plant & equipment	USDm	91	107	102	101	117	118	123	126	125	123	120	116	113	110
Long-term Investments	USDm	262	433	395	584	454	333	373	417	466	522	584	653	731	818
Goodwill	USDm	113	243	244	242	243	243	243	243	243	243	243	243	243	243
Other Intangibles	USDm	10	39	16	12	12	12	12	12	12	12	12	12	12	12
Deferred Tax Assets	USDm	29	450	435	419	407	407	407	407	407	407	407	407	407	407
Other Long-Term Assets	USDm	4	6	8	7	7	7	7	7	7	7	7	7	7	7
Moritex	USDm						275	275	275	275	275	275	275	275	275
Total non-current assets	USDm	509	1,279	1,199	1,364	1,240	1,394	1,440	1,487	1,536	1,589	1,647	1,713	1,787	1,872
Total assets	USDm	1,290	1,886	1,801	2,004	1,958	2,081	2,177	2,300	2,457	2,649	2,882	3,162	3,498	3,598
Accounts payable	USDm	16	18	16	44	27	23	29	32	39	48	59	71	84	99
Accrued expenses	USDm	54	47	69	86	68	75	76	84	95	106	118	132	148	166
Current portion of leases	USDm	-	6	8	8	8	8	8	8	8	8	8	8	8	8
Current income taxes payable	USDm	5	30	9	9	18	19	19	19	19	19	19	19	19	19
Unearned revenue	USDm	10	14	21	36	41	40	40	40	40	40	40	40	40	40
Other current liabilities	USDm	6	5	8	7	25	4	4	4	4	4	4	4	4	4
Total current liabilities	USDm	91	120	132	189	188	170	176	188	205	226	249	275	304	337
Long term leases	USDm	-	12	18	18	31	60	60	60	60	60	60	60	60	60
Def. Tax liabilities	USDm	1	332	315	294	250	233	233	233	233	233	233	233	233	233
Other non-current liabilities	USDm	62	65	73	73	51	38	38	38	38	38	38	38	38	38
Total liabilities	USDm	154	530	539	574	520	501	507	519	537	557	580	606	635	668
Common stock	USDm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additional paid in capital	USDm	529	639	808	915	979	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024	1,024
Retained earnings	USDm	646	753	488	563	528	625	715	826	965	1,137	1,347	1,601	1,908	1,974
Treasury stock	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Comprehensive income	USDm	(41)	(37)	(34)	(48)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)	(69)
Total common equity	USDm	1,135	1,356	1,262	1,430	1,438	1,580	1,670	1,781	1,920	2,092	2,302	2,556	2,863	2,929
Total liabilities and equity	USDm	1,290	1,886	1,801	2,004	1,958	2,081	2,177	2,300	2,457	2,649	2,882	3,162	3,498	3,598

Valuation and Financial Model III

Cash Flow Statement

Cashflow statement	Units:	Historical Period						Forecasting Period							
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Net income	USDm	219	204	176	280	216	136	207	242	286	336	393	460	536	624
D&A	USDm	18.5	21.5	22.1	16.6	16.3	17	12.6	18.1	23.3	28.1	32.3	36.0	39.3	42.5
Amortization of goodwill	USDm	3	3	4	4	3	3	-	-	-	-	-	-	-	-
(Gain) Loss From Sale Of Assets	USDm	-	0	2	0	0	-	-	-	-	-	-	-	-	-
(Gain) Loss On Sale Of Invest.	USDm	(0)	(2)	(3)	5	5	-	-	-	-	-	-	-	-	-
Asset Writedown & Restructuring	USDm	-	-	23	-	-	-	-	-	-	-	-	-	-	-
Stock-Based Compensation	USDm	41	46	43	44	55	-	-	-	-	-	-	-	-	-
Other Operating Activities	USDm	3	(91)	6	(1)	22	-	-	-	-	-	-	-	-	-
Change in Acc. Receivable	USDm	(3)	20	(22)	(3)	5	(5)	(14)	(17)	(9)	(9)	(9)	(8)	(7)	(6)
Change In Inventories	USDm	(20)	18	(10)	(55)	(49)	-	10	(11)	(2)	(1)	(0)	1	2	4
Change in Acc. Payable	USDm	(7)	2	(2)	28	(17)	(4)	6	3	8	9	10	12	13	15
Change in Unearned Rev.	USDm	1	4	7	14	5	(1)	-	-	-	-	-	-	-	-
Change in Inc. Taxes	USDm	(22)	25	(23)	(6)	(0)	-	-	-	-	-	-	-	-	-
Changes in other operating assets	USDm	(10)	3	19	(12)	(17)	(14)	20	(23)	(25)	(28)	(32)	(36)	(40)	(45)
Cashflow from operating activities	USDm	223	253	242	314	243	133	241	212	280	334	395	465	544	634
Capital Expenditure	USDm	(37)	(22)	(13)	(16)	(20)	(20)	(18)	(21)	(23)	(26)	(29)	(32)	(36)	(40)
Cash Acquisitions	USDm	(4)	(167)	1	-	(5)	(275)	-	-	-	-	-	-	-	-
Divestitures	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Invest. in Marketable & Equity Securt.	USDm	31	31	182	(237)	20	121	(40)	(44)	(50)	(55)	(62)	(69)	(78)	(87)
Net (Inc.) Dec. in Loans Originated/Sold	USDm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cashflow investing activities	USDm	(11)	(157)	169	(253)	(5)	(174)	(58)	(65)	(73)	(81)	(91)	(102)	(114)	(127)
Issuance of Common Stock	USDm	27	65	126	63	10	-	-	-	-	-	-	-	-	-
Repurchase of Common Stock	USDm	(204)	(62)	(51)	(162)	(204)	45	-	-	-	-	-	-	-	-
Common Dividends Paid	USDm	(32)	(35)	(39)	(43)	(46)	(39)	(117)	(131)	(147)	(164)	(183)	(205)	(230)	(257)
Special Dividend Paid	USDm	-	-	(351)	-	-	-	-	-	-	-	-	-	-	(300)
Other Financing Activities	USDm	(1)	-	(1)	-	-	-	-	-	-	-	-	-	-	-
Cashflow from financing activities	USDm	(210)	(32)	(317)	(142)	(240)	6	(117)	(131)	(147)	(164)	(183)	(205)	(230)	(557)
Effect of exchange rates	USDm	(1)	(1)	3	(3)	(3)	-	-	-	-	-	-	-	-	-
Net increase (decrease) in cash	USDm	2	63	98	(83)	(5)	(35)	66	16	61	89	121	158	200	(50)

Valuation and Financial Model IV

Discounted Cash Flow Calculation (1/2)

Free Cash Flow Calculation	Units:	Historical Period					Forecasting Period							
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EBIT	USDm	143	206	315	269	161	247	289	342	404	474	555	649	756
Fictitious taxes on EBIT	USDm	(33)	(47)	(72)	(62)	(37)	(57)	(67)	(79)	(93)	(109)	(128)	(149)	(174)
NOPAT		110	159	243	207	124	190	223	264	311	365	428	500	582
+ D&A and impairments	USDm	22	22	17	16	17	13	18	23	28	32	36	39	43
- CAPEX	USDm	(22)	(13)	(16)	(20)	(20)	(18)	(21)	(23)	(26)	(29)	(32)	(36)	(40)
± Δ NWC	USDm	44	(25)	(28)	(20)	(9)	2	(25)	(3)	(1)	1	4	8	13
Unlevered FCF	USDm	154	142	216	184	112	186	195	261	312	370	436	511	597
WACC							9%							
PV of FCFs	USDm						1,817							

Equity Bridge & Share Price Calculation		Units	
Perpetuity Approach			
Long-term growth rate	%		3.00%
WACC	%		9.2%
Terminal value	USDm		9,871
WACC 2024-2027	%	9.2%	
PV of TV	USDm	4,872	
% of EV	%	73%	
Enterprise value (31.01.2024)	USDm	6,689	
Interest-bearing debt	USDm	0	
Cash, equivalents & restricted cash	USDm	361	
Net debt (31.01.2024)	USDm	(361)	
Non-controlling interest (31.01.2024)	USDm	0	
Equity value (31.01.2024)	USDm	7,051	
Shares outstanding (in millions)	millions	172	
Price per share as of 31.01.2024 (in USD)	USD	40.96	
Current share price as of 31.01.2024	USD	36.91	
Upside potential %	%	11.0%	

Key Valuation Assumptions	
Tax rate	23%
WACC	9%
Long-term growth rate	3.00%
EV/EBTDA exit multiple	19.9x

Valuation and Financial Model V

Discounted Cash Flow Calculation (2/2)

Exit Multiple Approach - Historical			
EBIT	USDm		756
D&A	USDm		43
EBITDA			798
EV/EBTDA exit multiple			19.9x
Terminal value			15,884.26
WACC 2023-2027	%	9.2%	
PV of TV	USDm	7,840	
% of EV	%	81%	
Enterprise value (31.01.2024)	USDm	9,658	
Net debt (31.01.2024)	USDm	(361)	
Non-controlling interest (31.01.2024)	USDm	0	
Equity value (31.01.2024)	USDm	10,019	
Shares outstanding	Millions	172	
Price per share as of 31.01.2024 (in USD)	USDm	58.20	
Current share price as of 31.01.2024	USD	36.91	
Upside potential %	%	57.7%	

Average DCF Share Price

Share price (gordon growth approach)	USD	40.96
Share price (exit multiple approach)	USD	58.20
Average DCF share price	USD	49.58
Upside potential %	%	34.3%

Valuation and Financial Model VI

Target Share Price and WACC

Target Share Price

In USD

Live Case	Base Case
-----------	-----------

Method	Weight	Share Price	Upside/ downside
DCF (perpetuity)	40%	40.96	11.0%
DCF (exit multiple)	40%	58.20	57.7%
CCA	20%	22.92	-37.9%
Current price as of 31.01.2024	100%	36.91	
Target Price		44.25	19.88%

WACC

Harris Pringle Formula

Unlevered cost of equity	9.2%
Tax rate	23%
Levered cost of debt	0.0%
Debt/equity	0.01
WACC	9.2%

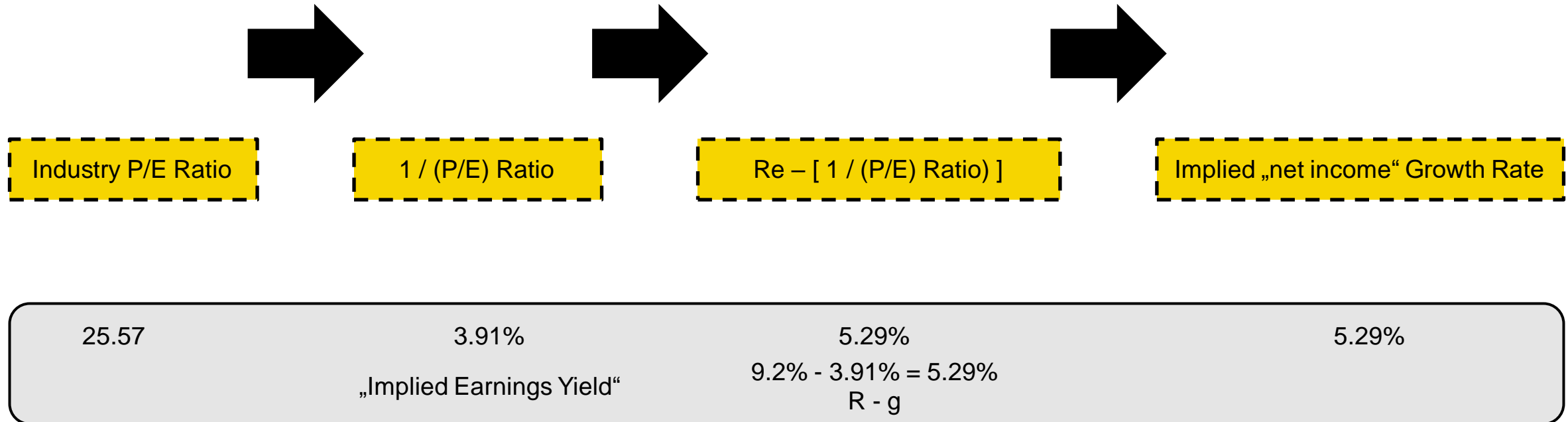
Cost of equity

Risk-free rate	4.10%
Unlevered peer group beta	1.12
Implied market risk premium	4.6%
Unlevered cost of equity	9.2%

Cost of debt

Short-term debt (% of total debt) (as of 31/12/2022)	33.9%
Weighted average interest rate on short-term debt	0.0%
Long-term debt (% of total debt) (as of 31/12/2022)	66.1%
Weighted average interest rate on long-term debt	0.0%
Weighted average interest rate	0.0%

Rationale behind our long-term growth rate



*According to this approach, our long-term growth rate of 3% for the TV calculation, can be argued to be conservative
We are aware that net income growth does not translate 1:1 to FCF, this is simply a proxy and we took the conservative end of it*

Moritex Acquisition (August 2023)

Moritex has established a reputation as an industry leader providing high-quality with a 50-year history

Product Overview



High-quality, standard optical components with high-accuracy

Headquarters in Yokohama, Japan



Company Information



Moritex is expected to contribute 6-8% of Cognex's revenue



Largest Cognex acquisition, with a price tag of \$ 275 million

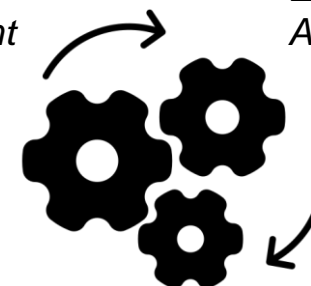


Moritex employs approximately 500 people

Expected Synergy Effects

Increased high-end optical components segment

Expansion into important APAC market



Consolidation of back-office

Shared R&D

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