

Cadence Design Systems (CDNS)

\$74.60 (As of 01/21/20)

Price Target (6-12 Months): **\$79.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 12/23/19)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

2-Buy

Zacks Style Scores:

VGM:D

Value: D

Growth: B

Momentum: D

Summary

Cadence is benefiting from robust adoption of its digital and signoff, custom and analog, IP solutions. Traction witnessed by new products, which include Protium X1, Spectre X, Smart JasperGold and Tensilica Vision Q7, holds promise. Sturdy pipeline of Cadence's innovative cloud-ready solutions bodes well. Also, collaboration with Azure, AWS and Google Cloud platform is a positive. Moreover, increasing investments on emerging trends like IoT, AR/VR and autonomous vehicle sub-systems present significant growth opportunity. Also, the stock has outperformed the industry on a year-to-date basis. However, reducing semiconductor budgets on EDA software, intense competition, currency exposure and high indebtedness are major headwinds. Estimates have been stable lately ahead of the company's fourth-quarter 2019 earnings release.

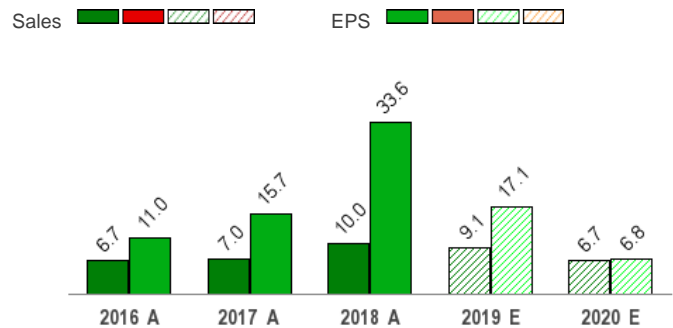
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$77.08 - \$45.17
20 Day Average Volume (sh)	1,119,958
Market Cap	\$20.9 B
YTD Price Change	7.6%
Beta	1.15
Dividend / Div Yld	\$0.00 / 0.0%
Industry	Computer - Software
Zacks Industry Rank	Top 26% (66 out of 255)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	5.9%
Last Sales Surprise	0.8%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	02/12/2020
Earnings ESP	0.0%

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2020	610 E	617 E	619 E	641 E	2,489 E
2019	577 A	580 A	580 A	596 E	2,333 E
2018	517 A	518 A	532 A	570 A	2,138 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2020	\$0.55 E	\$0.57 E	\$0.57 E	\$0.64 E	\$2.34 E
2019	\$0.54 A	\$0.57 A	\$0.54 A	\$0.53 E	\$2.19 E
2018	\$0.40 A	\$0.45 A	\$0.49 A	\$0.52 A	\$1.87 A

*Quarterly figures may not add up to annual.

P/E TTM	34.4
P/E F1	31.9
PEG F1	2.9
P/S TTM	9.1

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 01/21/2020. The reports text is as of 01/22/2020.

Overview

Based in San Jose, CA, Cadence Design Systems Inc. (CDNS) offers products and tools that help customers to design electronic products. Through System Design Enablement (SDE) strategy the company offers software, hardware, services and reusable IC design blocks (IPs) to electronic systems and semiconductor customers.

Cadence's core electronic design automation (EDA) software and services enable engineers to develop different types of ICs. Its design IP's are directly integrated into the ICs.

Moreover, System Connect tools and services are used for the design, analysis and verification of PCBs. Further, System Integration solutions aid in designing and analyzing systems as well as verifying system functionality.

Cadence reported revenues of \$2.14 billion in 2018.

The major product lines are as follows:

Functional verification products (24% of total revenue) comprise four primary verification engines – JasperGold formal verification platform, Xcelium parallel simulation platform, Palladium Z1 enterprise emulation platform and Protium S1 FPGA-based prototyping platform.

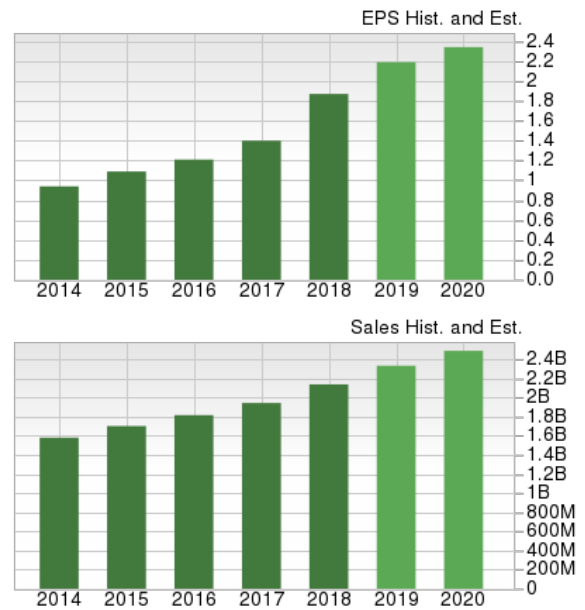
Digital IC Design and Signoff (29%) offerings include Genus synthesis, Stratus high-level synthesis, Joules RTL power and Modus test solutions. Innovus implementation system is the company's physical implementation offering. Tempus timing and Voltus power analysis, Quantus QRC extraction solutions, Physical Verification System and DFM are the signoff solutions.

Custom IC design (26%) includes the Virtuoso custom design platform. Virtuoso Advanced Node, Virtuoso Electrically Aware Design (EAD) and Spectre XPS FastSPICE Simulator are new products in the segment.

System Interconnect and Analysis segment (9%) offers Allegro system interconnect design platform, Sigrity analysis tools and OrCAD solution.

Under the IP segment (12%), Cadence offers Tensilica DSPs, vertically targeted subsystems for audio/voice, baseband and vision/imaging applications, controllers and physical interfaces (PHYs) for standard protocols and analog IP.

In 2018, the company derived 43% of its revenues from the U.S., while the remaining 57% came from its international operations.



Reasons To Buy:

▲ Expanding product portfolio as well as frequent product launches is a key catalyst. The company is focusing on providing end-to-end solutions, which rapidly reduces the time required to introduce a semiconductor product in the market. The company is experiencing strong demand for its software – particularly verification and digital design products – from customers providing datacenter servers, networking products and smartphones that continuous to invest in new design concepts and projects. We also believe that increasing investments on emerging trends like Internet-of-things (IoT), augmented and virtual reality (AR/VR) and autonomous vehicle sub-systems presents significant growth opportunity for the company in the long haul.

Cadence is well positioned for growth driven by expanding product portfolio, strong demand for products from existing and emerging markets, and solid recurring revenues that enhances visibility.

- ▲ Cadence ended 2018 with "contracted but unsatisfied performance obligations" of \$2.9 billion. The company expected approximately 60% of 2019 estimated revenue to come from this backlog. The company continues to invest heavily in verification and digital design products, which is helping it to launch products that address the ever-growing needs of electronics and semiconductor companies. We believe that the launch of new products like Protium X1, Spectre X, Smart JasperGold and Tensilica Vision Q7 and Xcelium, which have already been selected by new customers like NVIDIA, Xilinx and Mellanox, will boost top-line growth. Solid adoption continues for Palladium Z1 on the back of strong demand for growing hardware capacity is notable.
- ▲ We believe that increasing spending by enterprises on emerging categories like Internet-of-Things (IoT) and AR/VR presents significant growth opportunity for Cadence. Market research firm IDC estimates global IoT spending to grow at a CAGR of 14.4% over 2017-2021 time frame to hit \$1.1 trillion in 2021. Moreover, the firm estimates AR/VR spending to accelerate at a CAGR of 71.6% over 2017-2022 time frame. This presents significant growth opportunity for semiconductor chip makers as well as electronics sensor developers. We note that these two industries comprise the majority of customer base for Cadence. We believe that the company's expanding product portfolio will help it to win frequent orders as well as new customers from these emerging markets going ahead.
- ▲ Autonomous vehicle is a notable growth market for Cadence. Of late, the company has won orders from well-known companies like Intel's MobilEye and Infineon who are developing advanced driver assistance systems (ADAS) related technologies. The company has also introduced a broad portfolio of interface and memory design IP solutions for automotive applications using TSMC's 16-nanometer FinFET Compact process. We note that the expansion of Renesas agreement reflects the company's growing clout in the autonomous vehicle market. The company has placed a dedicated team to look after automotive ventures, which reflects the growing importance of the end-market for Cadence. This is a prudent step given the significant growth prospect of the ADAS market, which is estimated to be worth \$91.83 billion by 2025, according to data from MarketAndMarkets.
- ▲ We also note that the company is focused on developing its footprint in the aerospace and defense segment. Apart from having a dedicated team for the sector, Cadence has expanded systems business through partnerships with established sector players like Northrop Grumman, BAE Systems and GE Aviation. We believe that these partnerships will help in driving the company's market position in the long run.
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Reasons To Sell:

- ▼ Semiconductor research & development budgets have contracted in recent years and may continue reducing the amount spent on EDA software. Moreover, the EDA industry faces pricing problems from direct discounting, extension of payment terms, and/or the lowered value of a deal. These are significant headwinds for Cadence in the long haul.
- ▼ Cadence faces stiff competition from other EDA companies like Synopsys, ANSYS and Siemens AG (post the acquisition of Mentor Graphics). Intensifying competition negatively impacts pricing power, which keeps margins under pressure. Moreover, in order to remain competitive the company has increased spending on research & development (particularly on verification and digital design products) in the last 12-months, which is likely to limit operating margin expansion.
- ▼ The company generates a significant portion of its revenues (57% in fiscal 2018) from the International market. Hence, we expect adverse foreign currency exchange rates to impede revenue growth in the near term owing to fluctuation in the U.S. dollar as against the Japanese Yen, Euro and other foreign currencies.
- ▼ Acquisitions have also negatively impacted its balance sheet, as high indebtedness adds to the risk of investing in the company. As of Sep 28 2019, the company's long-term debt came in at \$345.8 million compared with \$345.7 million in the previous quarter. We also note the high level of goodwill and intangible assets, which totaled \$846.7 million or almost 31.8% of total assets at the end of third-quarter 2019.
- ▼ The company is trading at premium in terms of Price/Earnings (P/E). Cadence currently has a trailing 12-month P/E ratio of 31.76, which compares unfavorably with some extent with what the industry witnessed over the last year. Hence, valuation looks slightly stretched from P/E perspective.

Reducing semiconductor budgets on EDA software, intensifying competition, headwinds pertaining to currency exposure and high indebtedness are major headwinds for Cadence.

Last Earnings Report

Cadence Beats on Q3 Earnings & Revenues Estimates

Cadence Design reported third-quarter 2019 non-GAAP earnings of 54 cents per share, which surpassed the Zacks Consensus Estimate of 51 cents and surged 10.2% from the year-ago quarter. Management had envisioned earnings between 50-52 cents per share.

On a GAAP basis, earnings per share during the quarter came in at 36 cents compared with 35 cents reported in the year-ago quarter.

Revenues of \$579.6 million outpaced the Zacks Consensus Estimate of \$575 million and improved 9% on a year-over-year basis. Moreover, the top line came within management's expectation of \$570 million to \$580 million.

The outperformance can be attributed to robust adoption of the company's digital and signoff, IP solutions, and solid order renewal drove. Moreover, better-expected demand for Tensilica products and robust growth in audio, imaging, computer vision, and machine learning drove revenues.

Quarter in Detail

Product & Maintenance revenues (94.6% of total revenues) of \$548.1 million beat the Zacks Consensus Estimate of \$543 million and advanced 10.7% year over year.

Meanwhile, Services revenues (5.4%) of \$31.5 million marginally missed the Zacks Consensus Estimate of \$31.7 million. However, the figure was down 15.9% from the year-ago quarter.

Geographically, Americas, China, Other Asia, Europe, Middle East and Africa (EMEA) and Japan contributed 44%, 10%, 21%, 18% and 7%, respectively, to total revenues.

Product-wise, Functional Verification, Digital IC & Signoff, Custom IC Design & Simulation, Systems Interconnect & Analysis, and IP, comprised 20%, 30%, 26%, 9% and 15% of total revenues, respectively.

Considering Verification Suite, the company's flagship emulation platform Palladium Z1, witnessed eight new customer wins and eight repeat orders.

Management is optimistic about Protium X1, loaded with robust debug capabilities, aimed at enabling software developers to design advanced 5G and AI chips. The expansion of Cadence Verification Suite with the latest prototyping platform is expected to provide the company a competitive edge against Synopsys in the Electronic Design Automation (EDA) market.

During the quarter under review, revenues from IP witnessed growth of more than 20%. Furthermore, management is elated with growing clout of the company's innovative cloud-ready solutions.

Non-GAAP operating margin during the reported quarter remained flat year over year and came in at 32%.

Balance Sheet & Cash Flow

The company ended the reported quarter with cash and cash equivalents of approximately \$655.2 million compared with the previous-quarter figure of \$633.4 million. Cadence's long-term debt at the quarter's end was \$345.8 million compared with \$345.7 million in the previous quarter.

The company generated operating cash flow of \$139 million in the reported quarter compared with prior-quarter figure of \$246 million.

The company repurchased shares worth approximately \$75 million in the third quarter.

Guidance

For fourth-quarter 2019, Cadence expects total revenues in the range of \$590 million to \$600 million. Management guided non-GAAP earnings in the range of 52-54 cents per share. Non-GAAP operating margin for fourth-quarter is expected at around 30%.

For fiscal 2019, Cadence raised outlook. Revenues are now projected in the range of \$2.327-\$2.337 billion compared with the previously guided range of \$2.315-\$2.335 billion. Non-GAAP earnings are expected in the range of \$2.18-\$2.20 per share compared with the previously predicted range of \$2.11-\$2.17.

Further, non-GAAP operating margin for 2019 is now expected in the range of 31.5-32% compared with the previous guidance of 31-32%. Operating cash flow is now anticipated in the range of \$700-\$740 million, compared with previously predicted range of \$680-\$720 million.

Quarter Ending **09/2019**

Report Date	Oct 21, 2019
Sales Surprise	0.84%
EPS Surprise	5.88%
Quarterly EPS	0.54
Annual EPS (TTM)	2.17

Recent News

On **Jan 15, 2020**, Cadence Design announced that it has completed the acquisition of AWR Corporation from National Instruments Corporation. The buyout is expected to bolster the company's footing in 5G RF communications and support system innovation.

On **Jan 14, 2020**, Cadence Design announced that it is expanding its partnership with Broadcom Inc. for developing advanced semiconductor solutions. The collaboration will include the creation of 5nm designs.

On **Dec 10, 2019**, Cadence Design announced that its Voltus IC Power Integrity Solution and Innovus Implementation System have been deployed by Global Unichip Corporation (or GUC).

On **Dec 2, 2019**, entered into a strategic alliance with National Instruments Corporation NATI to augment electronic system innovation. Through this collaboration, the companies plan to develop an integrated design to test flow, leverage reusable data as well as test IP from electronics design and verification to validation and production test for electronic system and semiconductor companies.

On **Nov 13, 2019**, Cadence Design unveiled UltraLink D2D PHY IP to aid system-on-chip (SoC) vendors to offer customized solutions that enable high performance.

On **Nov 6, 2019**, Cadence Design unveiled Tempus Power Integrity solution, which will help engineers to build reliable designs by utilizing IR drop analysis capabilities.

Valuation

Cadence Design Systems shares have inched-up 0.4% in the past six-month period and 64% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 13.2% and 16.5% in the past six-month period, respectively. Over the past year, the Zacks sub-industry and the sector are up 43.6% and 36.3%, respectively.

The S&P 500 index is up 12.2% in the past six-month period and 27.8% in the past year.

The stock is currently trading at 31.76X forward 12-month earnings, which compares to 29.83X for the Zacks sub-industry, 23.1X for the Zacks sector and 19.13X for the S&P 500 index.

Over the past five years, the stock has traded as high as 50.2X and as low as 23.63X, with a 5-year median of 34.67X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$79 price target reflects 33.63X forward 12-month earnings.

The table below shows summary valuation data for CDNS

Valuation Multiples - CDNS					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	31.76	29.83	23.1	19.13
	5-Year High	50.2	29.83	23.1	19.34
	5-Year Low	23.63	17.61	16.87	15.17
	5-Year Median	34.67	24.13	19.24	17.44
P/S F12M	Current	8.39	7.36	3.74	3.56
	5-Year High	8.9	7.36	3.74	3.56
	5-Year Low	2.92	3.88	2.3	2.54
	5-Year Median	4.94	5.29	3.01	3
P/B TTM	Current	14.14	10.15	5.61	4.54
	5-Year High	14.95	10.16	5.61	4.55
	5-Year Low	3.76	3.87	3.13	2.85
	5-Year Median	10.25	6.26	4.22	3.61

As of 01/21/2020

Industry Analysis Zacks Industry Rank: Top 26% (66 out of 255)



Top Peers

Autodesk, Inc. (ADSK)	Neutral
ANSYS, Inc. (ANSS)	Neutral
Citrix Systems, Inc. (CTXS)	Neutral
Konami Corp. (KNMCO)	Neutral
Nuance Communications, Inc. (NUAN)	Neutral
Open Text Corporation (OTEX)	Neutral
PTC Inc. (PTC)	Neutral
Synopsys, Inc. (SNPS)	Neutral

Industry Comparison Industry: Computer - Software				Industry Peers		
	CDNS Neutral	X Industry	S&P 500	ADSK Neutral	NUAN Neutral	SNPS Neutral
VGM Score	D	-	-	C	F	F
Market Cap	20.93 B	2.08 B	24.43 B	43.09 B	5.70 B	23.12 B
# of Analysts	5	3.5	13	10	4	4
Dividend Yield	0.00%	0.00%	1.75%	0.00%	0.62%	0.00%
Value Score	D	-	-	F	D	F
Cash/Price	0.03	0.10	0.04	0.02	0.13	0.03
EV/EBITDA	39.70	22.23	14.00	621.04	18.85	27.79
PEG Ratio	2.90	2.28	2.06	1.86	4.76	2.30
Price/Book (P/B)	14.14	5.64	3.39	NA	2.64	5.64
Price/Cash Flow (P/CF)	45.20	27.71	13.69	353.32	15.10	28.97
P/E (F1)	31.88	33.48	19.00	70.62	23.80	29.41
Price/Sales (P/S)	9.07	4.83	2.68	13.85	3.11	6.88
Earnings Yield	3.14%	2.79%	5.26%	1.41%	4.19%	3.40%
Debt/Equity	0.23	0.16	0.72	-8.92	0.37	0.03
Cash Flow (\$/share)	1.65	1.01	6.94	0.55	1.33	5.30
Growth Score	B	-	-	A	D	D
Hist. EPS Growth (3-5 yrs)	14.82%	9.51%	10.60%	NA	4.01%	12.85%
Proj. EPS Growth (F1/F0)	6.94%	12.12%	7.57%	174.55%	-26.10%	14.53%
Curr. Cash Flow Growth	12.67%	7.45%	14.00%	-149.98%	-36.12%	24.16%
Hist. Cash Flow Growth (3-5 yrs)	6.11%	8.09%	9.00%	-21.89%	-0.89%	8.09%
Current Ratio	1.70	1.49	1.23	0.60	0.68	0.99
Debt/Capital	18.94%	18.28%	42.99%	NA	26.75%	2.85%
Net Margin	18.54%	6.51%	11.15%	4.74%	11.83%	15.84%
Return on Equity	30.74%	12.23%	17.16%	-113.06%	12.42%	13.54%
Sales/Assets	0.90	0.65	0.55	0.64	0.35	0.54
Proj. Sales Growth (F1/F0)	6.66%	7.04%	4.05%	27.06%	-19.32%	7.85%
Momentum Score	D	-	-	C	F	F
Daily Price Chg	1.18%	0.00%	-0.27%	1.29%	1.62%	1.13%
1 Week Price Chg	0.96%	1.32%	2.29%	0.51%	7.23%	2.29%
4 Week Price Chg	7.11%	6.49%	2.13%	6.49%	11.39%	11.12%
12 Week Price Chg	13.08%	15.76%	6.99%	34.51%	23.46%	12.36%
52 Week Price Chg	62.95%	34.46%	21.25%	40.83%	32.34%	71.04%
20 Day Average Volume	1,119,958	82,678	1,415,064	1,024,076	2,449,813	739,829
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(F1) EPS Est 4 week change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(F1) EPS Est 12 week change	0.00%	0.03%	-0.34%	-2.83%	-41.11%	10.59%
(Q1) EPS Est Mthly Chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we have an excellent balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	D
Growth Score	B
Momentum Score	D
VGM Score	D

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

Disclosures

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