

Cadence Design Systems (CDNS)

\$79.25 (As of 02/13/20)

Price Target (6-12 Months): **\$92.00**

Long Term: 6-12 Months

Zacks Recommendation: **Outperform**
(Since: 02/12/20)

Prior Recommendation: Neutral

Short Term: 1-3 Months

Zacks Rank: (1-5) **2-Buy**

Zacks Style Scores: VGM:C

Value: D | Growth: A | Momentum: D

Summary

Cadence's Q4 earnings and revenues improved year over year. The company provided encouraging 2020 guidance. Robust adoption of the company's digital and signoff, custom and analog, IP solutions, and an ever expanding customer base drove year-over-year growth. The company is also benefiting from the launch of new products, which includes Protium X1, Spectre X, Smart JasperGold and Tensilica Vision Q7. Sturdy pipeline of Cadence's innovative cloud-ready solutions hold promise. Further, collaboration with Azure, AWS and Google Cloud platform bodes well. Moreover, higher investments on emerging trends like IoT, AR/VR, 5G and autonomous vehicle sub-systems present significant growth opportunity. Acquisitions of Integrand Software and AWR Corporation hold promise. Notably, shares have outperformed the industry in the past year.

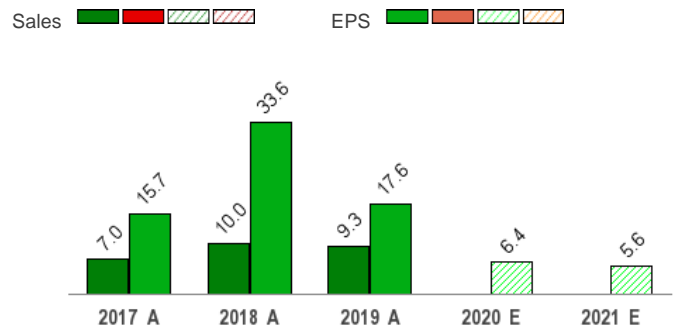
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$79.59 - \$51.01
20 Day Average Volume (sh)	1,417,009
Market Cap	\$22.2 B
YTD Price Change	14.3%
Beta	1.12
Dividend / Div Yld	\$0.00 / 0.0%
Industry	Computer - Software
Zacks Industry Rank	Top 22% (55 out of 255)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	1.9%
Last Sales Surprise	0.5%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	04/27/2020
Earnings ESP	0.0%

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	633 E	639 E	637 E	658 E	2,612 E
2020	612 E	617 E	619 E	641 E	
2019	577 A	580 A	580 A	600 A	2,336 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$0.60 E	\$0.60 E	\$0.60 E	\$0.64 E	\$2.47 E
2020	\$0.55 E	\$0.57 E	\$0.59 E	\$0.65 E	\$2.34 E
2019	\$0.54 A	\$0.57 A	\$0.54 A	\$0.54 A	\$2.20 A

*Quarterly figures may not add up to annual.

P/E TTM	36.2
P/E F1	33.9
PEG F1	3.1
P/S TTM	9.5

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 02/13/2020. The reports text is as of 02/14/2020.

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 \$2.34 billion in 2019, up 9.3% over 2018 tally.

The major product lines are as follows:

Functional verification products (23% of total 2019 revenues) 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.

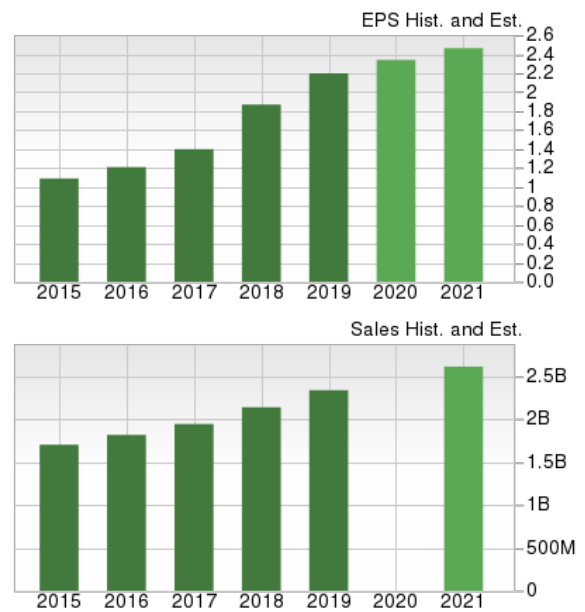
Digital IC Design and Signoff (30%) offerings include Genus synthesis, Stratus high-level synthesis, Joules RTL power and Modus test solutions. Innovus implementation system is the company's physical implementation offering. Tempus timing and Voltus power analysis, Quantus QRC extraction solutions, Physical Verification System and DFM are the signoff solutions.

Custom IC design (25%) 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, Sigriety analysis tools and OrCAD solution.

Under the IP segment (13%), 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 2019, the company derived 46% of revenues from Americas, while the balance 54% 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 ended 2019 with backlog of \$3.6 billion. 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 hit \$1.1 trillion in 2023, from \$726 billion in 2019. Moreover, the firm estimates AR/VR spending to see a CAGR of 77% over 2019-2023. 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 \$134.9 billion by 2027, 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.

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.

Risks

- 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 (54% in 2019) 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 Dec 28 2019, the company's long-term debt came in at \$346.0 million compared with \$345.8 million in the previous quarter. We also note the high level of goodwill and intangible assets, which totaled \$834.2 million or 24.8% of total assets, as of Dec 28, 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 52.14, which compares unfavorably with some extent with what the industry witnessed over the last year. Hence, valuation looks slightly stretched from P/E perspective.
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Last Earnings Report

Cadence Q4 Earnings & Revenues Rise Y/Y

Cadence Design Systems, Inc. reported fourth-quarter 2019 non-GAAP earnings of 54 cents per share, which increased 3.8% from the year-ago quarter.

Revenues of \$599.6 million improved 5.3% on a year-over-year basis.

The year-over-year outperformance can be attributed to robust adoption of the company's digital & signoff, and IP solutions along with an expanded customer base. Moreover, better-than-expected demand for Tensilica products and robust growth in audio, imaging, computer vision, and machine learning drove revenues.

Quarter Ending **12/2019**

Report Date	Feb 12, 2020
Sales Surprise	0.52%
EPS Surprise	1.89%
Quarterly EPS	0.54
Annual EPS (TTM)	2.19

Quarter Details

Product & Maintenance revenues (94.2% of total revenues) of \$565 million advanced 5.7% year over year.

However, Services revenues (5.8%) of \$34.6 million declined 2.4% from the year-ago quarter.

Geographically, Americas, China, Other Asia, Europe, Middle East and Africa (EMEA), and Japan contributed 46%, 9%, 20%, 18% and 7%, respectively, to total revenues.

Product-wise, Functional Verification, Digital IC & Signoff, Custom IC Design & Simulation, Systems Interconnect & Analysis, and IP comprised 24%, 29%, 25%, 9% and 13% of total revenues, respectively.

Verification Suite, the company's flagship emulation platform Palladium Z1, witnessed 19 new customer wins while Protium X1 witnessed 11 wins. Moreover, a global marquee customer expanded its hardware footprint with additional Z1 capacity as well as X1, which was one the largest hardware orders ever for Cadence.

Meanwhile, non-GAAP gross margin increased 110 basis points (bps) year over year to 89.7%.

Total non-GAAP costs and expenses increased 6% year over year to \$415.1 million.

Non-GAAP operating margin was 30.8%, down 50 bps from the year-ago quarter.

Balance Sheet & Cash Flow

As of Dec 28, 2019, the company had cash and cash equivalents of approximately \$705.2 million compared with \$655.2 million as Sep 30, 2019.

The company generated operating cash flow of \$159.3 million in the reported quarter compared with prior-quarter figure of \$138.5 million.

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

Guidance

For first-quarter 2020, Cadence expects total revenues in the range of \$610 million to \$620 million. Management guided non-GAAP earnings in the range of 53-55 cents per share.

Non-GAAP operating margin for first-quarter 2020 is expected at around 30%.

For 2020, revenues are projected in the range of \$2.545-\$2.585 billion. Non-GAAP earnings are expected in the range of \$2.40-\$2.50 per share.

Further, non-GAAP operating margin for 2020 is expected in the range of 32-33%. Operating cash flow is anticipated in the range of \$775-\$825 million.

Notably, the guidance for 2020 takes into account the export limitations for certain Chinese customers, two recent acquisitions and the effect of the coronavirus outbreak in China.

Recent News

On **Feb 13, 2020**, Cadence Design announced acquisition of Integrand Software to strengthen foothold in the 5G RF communications domain. Integrand specializes in EMX technology, which is integrated with Method of Moments (MoM) solver capabilities. The terms of the deal have been kept under wraps.

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.

Valuation

Cadence Design Systems shares are up 16.3% in the past six-month period and 50.7% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 29.1% and 26.6% in the past six-month period, respectively. Over the past year, the Zacks sub-industry and the sector are up 47.3% and 31.3%, respectively.

The S&P 500 index is up 20.2% in the past six-month period and 23.3% in the past year.

The stock is currently trading at 33.63X forward 12-month earnings, which compares to 30.54X for the Zacks sub-industry, 23.2X for the Zacks sector and 19.37X for the S&P 500 index.

Over the past five years, the stock has traded as high as 50.2X and as low as 23.78X, with a 5-year median of 35.17X. Our Outperform recommendation indicates that the stock will perform in line with the market. Our \$92 price target reflects 39.04X 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	33.63	30.54	23.20	19.37
	5-Year High	50.20	30.54	23.20	19.37
	5-Year Low	23.78	18.59	16.87	15.18
	5-Year Median	35.17	24.45	19.32	17.47
P/S F12M	Current	8.88	7.66	3.79	3.57
	5-Year High	8.90	7.66	3.79	3.57
	5-Year Low	3.02	3.88	2.3	2.54
	5-Year Median	5.04	5.30	3.02	3
P/B TTM	Current	15.02	10.81	5.75	4.35
	5-Year High	15.02	10.93	5.76	4.42
	5-Year Low	3.91	3.99	3.13	2.85
	5-Year Median	10.37	6.31	4.24	3.62

As of 02/13/2020

Industry Analysis Zacks Industry Rank: Top 22% (55 out of 255)



Top Peers

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

Industry Comparison Industry: Computer - Software				Industry Peers		
	CDNS Outperform	X Industry	S&P 500	ADSK Neutral	NUAN Outperform	SNPS Neutral
VGM Score	C	-	-	C	F	D
Market Cap	22.24 B	2.05 B	24.53 B	45.66 B	6.46 B	24.29 B
# of Analysts	5	4	13	10	4	4
Dividend Yield	0.00%	0.00%	1.75%	0.00%	0.55%	0.00%
Value Score	D	-	-	D	D	D
Cash/Price	0.03	0.10	0.04	0.02	0.12	0.03
EV/EBITDA	42.21	23.77	13.98	657.62	24.49	29.24
PEG Ratio	3.08	2.42	2.09	1.24	5.25	2.42
Price/Book (P/B)	15.02	5.79	3.29	NA	5.23	5.93
Price/Cash Flow (P/CF)	48.01	27.97	13.69	374.37	17.19	30.44
P/E (F1)	33.87	33.91	19.19	47.24	26.24	30.90
Price/Sales (P/S)	9.52	4.93	2.68	14.67	3.68	7.23
Earnings Yield	2.95%	2.79%	5.21%	2.12%	3.81%	3.23%
Debt/Equity	0.23	0.18	0.71	-8.92	1.41	0.03
Cash Flow (\$/share)	1.65	1.01	6.92	0.55	1.33	5.30
Growth Score	A	-	-	A	D	D
Hist. EPS Growth (3-5 yrs)	14.82%	10.54%	10.85%	NA	1.54%	12.85%
Proj. EPS Growth (F1/F0)	6.45%	13.10%	7.30%	58.42%	-23.68%	14.53%
Curr. Cash Flow Growth	12.67%	7.45%	8.56%	-149.98%	-36.12%	24.16%
Hist. Cash Flow Growth (3-5 yrs)	6.11%	7.84%	8.36%	-21.89%	-0.89%	8.09%
Current Ratio	1.70	1.49	1.23	0.60	1.70	0.99
Debt/Capital	18.94%	18.94%	42.91%	NA	58.50%	2.85%
Net Margin	42.33%	6.51%	11.81%	4.74%	14.02%	15.84%
Return on Equity	69.38%	12.71%	16.92%	-113.06%	12.71%	13.54%
Sales/Assets	0.90	0.64	0.54	0.64	0.36	0.54
Proj. Sales Growth (F1/F0)	6.52%	7.63%	3.96%	21.76%	-19.15%	7.85%
Momentum Score	D	-	-	D	F	B
Daily Price Chg	2.79%	0.00%	0.64%	0.19%	1.60%	1.16%
1 Week Price Chg	2.00%	0.00%	2.47%	5.16%	15.49%	4.59%
4 Week Price Chg	8.47%	1.48%	1.87%	7.80%	15.54%	7.80%
12 Week Price Chg	17.96%	8.08%	6.69%	25.73%	30.31%	16.29%
52 Week Price Chg	53.41%	24.87%	16.42%	29.74%	38.03%	60.39%
20 Day Average Volume	1,417,009	66,338	2,019,212	1,356,190	3,418,027	838,958
(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%	-0.06%	0.00%	5.37%	0.00%
(F1) EPS Est 12 week change	0.00%	-1.18%	-0.19%	-6.24%	-37.95%	10.59%
(Q1) EPS Est Mthly Chg	0.00%	0.00%	-0.16%	0.00%	-17.14%	0.00%

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	F
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.

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