

## Cadence Design Systems (CDNS)

**\$91.29** (As of 05/29/20)

Price Target (6-12 Months): **\$96.00**

Long Term: 6-12 Months

**Zacks Recommendation:**

**Neutral**

(Since: 03/22/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

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

**3-Hold**

Zacks Style Scores:

VGM:C

Value: D

Growth: C

Momentum: B

### Summary

Cadence is expected to benefit from robust adoption of its digital and signoff as well as IP solutions. Moreover, an expanding customer base bodes well. The launch of products that include Protium X1, Spectre X, Smart JasperGol and Tensilica Vision Q7 is expected to drive the company's top line in the near term. Further, collaborations with Microsoft Azure, AWS and Google Cloud platform is a positive. Additionally, higher investments on emerging trends like IoT, AR/VR and autonomous vehicle sub-systems present significant growth opportunity. The company maintained its 2020 guidance amid coronavirus-related headwinds. Notably, shares of Cadence have outperformed the industry year-to-date. However, reducing semiconductor budgets on EDA software, intensifying competition and currency exposure are major headwinds.

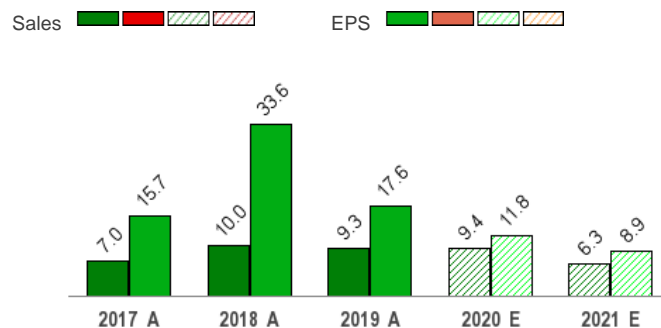
### Price, Consensus & Surprise



### Data Overview

52 Week High-Low	\$91.83 - \$51.39
20 Day Average Volume (sh)	1,938,756
Market Cap	\$25.6 B
YTD Price Change	31.6%
Beta	1.08
Dividend / Div Yld	\$0.00 / 0.0%
Industry	<a href="#">Computer - Software</a>
Zacks Industry Rank	Bottom 44% (142 out of 254)

### Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	11.1%
Last Sales Surprise	0.8%
EPS F1 Est- 4 week change	0.0%
Expected Report Date	NA
Earnings ESP	0.0%
P/E TTM	40.6
P/E F1	37.1
PEG F1	3.0
P/S TTM	10.8

### Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	664 E	671 E	681 E	688 E	2,716 E
2020	618 A	592 E	647 E	699 E	2,556 E
2019	577 A	580 A	580 A	600 A	2,336 A

### EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$0.64 E	\$0.64 E	\$0.68 E	\$0.70 E	\$2.68 E
2020	\$0.60 A	\$0.52 E	\$0.63 E	\$0.71 E	\$2.46 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.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 05/29/2020. The reports text is as of 06/01/2020.

## 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.

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.

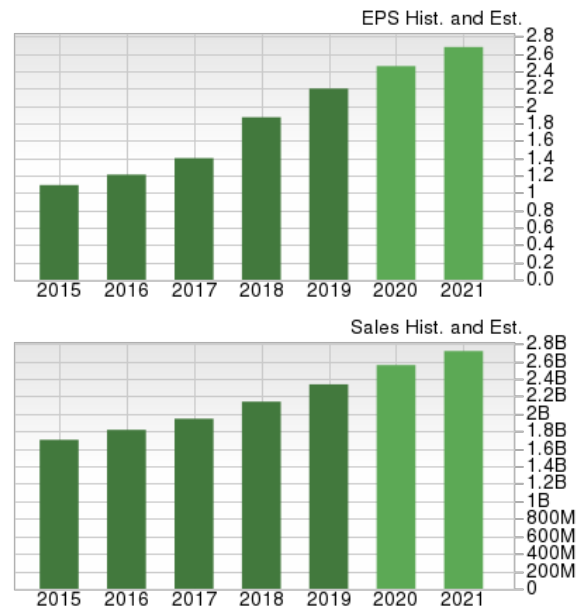
Digital IC Design and Signoff (30%) offerings include Genus synthesis, Stratus high-level synthesis, Joules RTL power and Modus test solutions. Innovus implementation system is the company's physical implementation offering. Tempus timing and Voltus power analysis, Quantus QRC extraction solutions, Physical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



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## 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 had a net cash position of \$600.1 million as of Mar 28, 2020 compared with \$359.2 million as of Dec 28, 2019. The strong cash balance can aid the company to pursue strategic acquisitions and other investments in growth initiatives. Notably, total debt to total capital of 24.4% is much lower than the industry's figure of 42.9%. Further, times interest earned is 27.6X, compared with the industry's figure of 17.5X. Moreover, during the first quarter, the company generated \$217.7 million in cash from operations, up from \$159.3 million reported in the previous quarter. Additionally, Cadence had free cash flow of \$196 million during the first quarter, compared with \$132 million in prior quarter. The increasing liquidity and cash flow trend reflect that the company is making investments in the right direction.

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.

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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 (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 a high level of goodwill and intangible assets adds to the risk of investing in the company. Notably, the company's goodwill and intangible assets totaled \$1.037 billion or 27.5% of total assets as of Mar 28 compared with \$834.2 million as of Dec 28, 2019.
- ▼ We note that the Cadence currently has a trailing 12-month Price/Book (P/B) ratio of 10.72X. This level compares unfavorably to some extent with what the industry saw over the last year. Consequently, valuation looks slightly stretched from a P/B 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 Q1 Earnings & Revenues Rise Y/Y

Cadence Design Systems, Inc. first-quarter 2020 non-GAAP earnings of 60 cents per share, which increased 11.1% year over year.

Revenues of \$618 million improved 7.1% on a year-over-year basis.

The upside can be attributed to robust adoption of the company's digital & signoff and IP solutions as well as expanding customer base. Moreover, better-than-expected demand for Tensilica products and the Cadence Verification Suite that includes Xcelium, Palladium, Jasper, and Protium drove revenues.

Quarter Ending **03/2020**

Report Date	Apr 20, 2020
Sales Surprise	<b>0.81%</b>
EPS Surprise	<b>11.11%</b>
Quarterly EPS	<b>0.60</b>
Annual EPS (TTM)	<b>3.54</b>

### Quarter Details

Product & Maintenance revenues (94.1% of total revenues) of \$581.7 million increased 7% year over year.

Services revenues (5.9%) of \$36.3 million increased 9.1% from the year-ago quarter's reported figure.

Geographically, Americas, China, Other Asia, Europe, Middle East and Africa (EMEA), and Japan contributed 43%, 13%, 18%, 19% and 7%, respectively, to total revenues.

Product-wise, Functional Verification, Digital IC & Signoff, Custom IC Design & Simulation, Systems Interconnect & Analysis, and IP contributed 23%, 29%, 25%, 9% and 14% to total revenues, respectively.

Cadence Verification Suite saw robust traction in the first quarter, with the company's flagship emulation platform Palladium Z1, witnessing four new client wins and nine expansions while Protium X1 witnessed six new deals and six repeat orders.

The Protium X1's adoption was driven by increased deployment in Palladium accounts as it shares a common front-end compiler with the Palladium Z1.

Meanwhile, total non-GAAP costs and expenses increased 7.3% year over year to \$418.8 million.

Non-GAAP operating margin was 32%, which was flat year over year.

### Balance Sheet & Cash Flow

As of Mar 28, 2020, the company had cash and cash equivalents of approximately \$946.3 million compared with \$705.2 million as on Dec 28, 2019.

Moreover, the company's long-term debt came in at \$346.2 million as of Mar 28, 2020, compared with \$346 million in the previous quarter.

The company generated operating cash flow of \$217.7 million in the reported quarter compared with prior-quarter's figure of \$159.3 million.

The company repurchased shares worth approximately \$100 million in the first quarter.

### Guidance

For second-quarter 2020, Cadence expects total revenues in the range of \$580-\$600 million.

Management guided non-GAAP earnings in the range of 50-54 cents per share.

Cadence reaffirmed its guidance for 2020, amid coronavirus-related headwinds.

Notably, 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.

Notably, the guidance for 2020 takes into account the export limitations for certain Chinese customers as well as two recent acquisitions of AWR and Integrand that is expected to generate additional revenues.

## Recent News

On May 26, Cadence announced that it has expanded its partnership with Arm to support the development of mobile devices based on Arm's Cortex-A78 and Cortex-X1 CPUs.

On Mar 17, Cadence announced the launch of Cadence digital full flow, which has been enhanced to further optimize power, performance and area (PPA) results across a variety of application areas including high-performance computing and AI.

On Mar 11, Cadence announced that it had optimized the software for Cadence Tensilica HiFi digital signal processors to address the growing demand for pervasive intelligence in advanced audio, voice and sensing applications.

On Mar 9, Cadence announced collaboration with STMicroelectronics to work on a 56G very short-reach (VSR) SerDes in 7nm for a system on chip (SoC) targeted at the networking, cloud and data center markets.

On Mar 5, Cadence announced a partnership with Dover Microsystems to deliver a solution that enables the development of secure processing for aerospace and defense applications.

On Feb 13, Cadence 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.

## Valuation

Cadence Design Systems' shares have increased 31.7% in the year to date period and 48% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 12% and 4.4% in the year to date period, respectively. Over the past year, the Zacks sub-industry and the sector are up 35.5% and 27.4%, respectively.

The S&P 500 index is down 5.4% in the year to date period but up 11.1% in the past year.

The stock is currently trading at 35.8X forward 12-month earnings, which compares to 29.86X for the Zacks sub-industry, 24.36X for the Zacks sector and 22.09X for the S&P 500 index.

Over the past five years, the stock has traded as high as 52.35X and as low as 23.78X, with a 5-year median of 36.78X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$96 price target reflects 37.64X 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	35.8	29.86	24.36	22.09
	5-Year High	52.35	29.86	24.36	22.09
	5-Year Low	23.78	18.62	16.72	15.23
	5-Year Median	36.78	24.92	19.26	17.49
P/S F12M	Current	9.75	7.41	3.69	3.43
	5-Year High	9.75	7.41	3.69	3.44
	5-Year Low	3.08	3.88	2.32	2.53
	5-Year Median	5.35	5.54	3.11	3.02
EV/Sales TTM	Current	10.51	7.56	4.2	2.97
	5-Year High	10.51	8.11	4.43	3.46
	5-Year Low	3.05	3.19	2.59	2.14
	5-Year Median	5.62	5.72	3.58	2.82

As of 05/29/2020

## Industry Analysis Zacks Industry Rank: Bottom 44% (142 out of 254)



## Top Peers

Company (Ticker)	Rec	Rank
Autodesk, Inc. (ADSK)	Neutral	3
ANSYS, Inc. (ANSS)	Neutral	4
Aspen Technology, Inc. (AZPN)	Neutral	4
Citrix Systems, Inc. (CTXS)	Neutral	2
Konami Corp. (KNMCMY)	Neutral	4
Nuance Communications, Inc. (NUAN)	Neutral	3
Open Text Corporation (OTEX)	Neutral	4
Synopsys, Inc. (SNPS)	Neutral	2

Industry Comparison Industry: Computer - Software				Industry Peers		
	CDNS	X Industry	S&P 500	KNMCMY	NUAN	OTEX
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	4	3	4
VGM Score	C	-	-	B	C	B
Market Cap	25.58 B	2.05 B	21.48 B	4.76 B	6.44 B	11.28 B
# of Analysts	6	4	14	2	4	3
Dividend Yield	0.00%	0.00%	1.96%	0.23%	0.55%	1.68%
Value Score	D	-	-	B	C	C
Cash/Price	0.04	0.09	0.06	0.29	0.09	0.13
EV/EBITDA	40.18	18.91	12.56	NA	24.74	12.75
PEG Ratio	2.97	2.49	2.87	NA	5.53	NA
Price/Book (P/B)	11.85	5.55	2.92	1.85	5.77	2.82
Price/Cash Flow (P/CF)	22.96	22.96	11.74	10.95	17.23	14.73
P/E (F1)	37.06	31.79	21.35	18.14	27.65	15.40
Price/Sales (P/S)	10.76	4.92	2.27	2.00	3.75	3.72
Earnings Yield	2.69%	2.94%	4.52%	5.51%	3.63%	6.50%
Debt/Equity	0.16	0.16	0.76	0.04	1.45	0.90
Cash Flow (\$/share)	3.98	1.18	6.96	3.21	1.33	2.82
Growth Score	C	-	-	A	C	C
Hist. EPS Growth (3-5 yrs)	27.77%	9.72%	10.87%	NA	-1.12%	-10.13%
Proj. EPS Growth (F1/F0)	11.74%	-5.25%	-10.48%	40.07%	-27.41%	-2.29%
Curr. Cash Flow Growth	138.95%	8.84%	5.39%	12.04%	-36.12%	7.45%
Hist. Cash Flow Growth (3-5 yrs)	24.55%	8.71%	8.55%	21.35%	-0.89%	5.27%
Current Ratio	1.38	1.47	1.29	2.78	1.16	1.14
Debt/Capital	13.82%	23.05%	44.54%	3.44%	59.24%	47.28%
Net Margin	41.74%	7.18%	10.59%	12.30%	9.06%	9.24%
Return on Equity	55.35%	11.53%	16.26%	11.82%	12.80%	7.09%
Sales/Assets	0.77	0.63	0.55	0.68	0.38	0.34
Proj. Sales Growth (F1/F0)	9.40%	1.82%	-2.53%	-3.80%	-23.05%	7.97%
Momentum Score	B	-	-	D	C	A
Daily Price Chg	3.67%	0.00%	-0.11%	0.00%	1.02%	1.59%
1 Week Price Chg	4.85%	3.77%	4.99%	5.74%	7.35%	3.74%
4 Week Price Chg	12.52%	9.05%	4.40%	9.79%	13.27%	9.46%
12 Week Price Chg	34.57%	8.96%	-2.75%	-0.13%	6.22%	-3.08%
52 Week Price Chg	41.93%	4.48%	0.07%	-25.57%	33.26%	4.48%
20 Day Average Volume	1,938,756	139,769	2,425,602	1,678	2,874,599	521,348
(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%	-1.73%	-1.70%	-1.27%	-5.26%	0.45%
(F1) EPS Est 12 week change	3.87%	-8.46%	-16.00%	-15.65%	-8.28%	-7.76%
(Q1) EPS Est Mthly Chg	0.00%	-0.70%	-3.25%	NA	-36.67%	-15.28%

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## 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.

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### 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	C
Momentum Score	B
VGM Score	C

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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### Disclosures

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