

Ansys, Inc.

Recommendation **SELL** ★ ★ ★ ★ ★

Price
\$148.19 (as of Nov 30, 2017 4:00 PM ET)

12-Mo. Target Price
\$134.00

Report Currency
USD

Investment Style
Mid-Cap Blend

Equity Analyst Scott Kessler

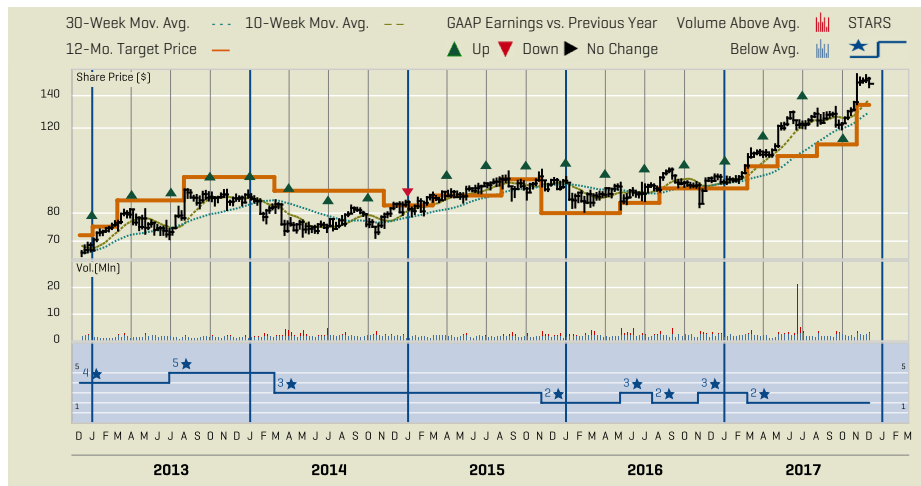
GICS Sector Information Technology
Sub-Industry Application Software

Summary This company develops, markets and supports software solutions for mechanical and electronic design, analysis and optimization.

Key Stock Statistics (Source: CFRA, S&P Global Market Intelligence (SPGMI), Company Reports)

52-Wk Range	\$155.14 - 91.89	Oper. EPS 2017E	3.96	Market Capitalization[B]	\$12.58	Beta	-0.22
Trailing 12-Month EPS	3.18	Oper. EPS 2018E	4.20	Yield (%)	NA	3-Yr Proj. EPS CAGR[%]	11
Trailing 12-Month P/E	46.08	P/E on Oper. EPS 2017E	37.02	Dividend Rate/Share	NA	SPGMI's Quality Ranking	B+
\$10K Invested 5 Yrs Ago	\$22,599	Common Shares Outstg.[M]	84.9	Institutional Ownership [%]	99		

Price Performance



Source: CFRA, S&P Global Market Intelligence

Past performance is not an indication of future performance and should not be relied upon as such.

Analysis prepared by Equity Analyst **Scott Kessler** on Nov 07, 2017 08:43 PM, when the stock traded at **\$151.93**.

Highlights

- ▶ We project that revenues will increase 7% to 10% annually through 2019, following flat revenues in 2015 and a 5% increase in 2016. The Americas, Europe and the Asia-Pacific regions each represent about a third of sales, and global economic sluggishness and uncertainties have contributed to challenges for ANSS, in our opinion. Unsurprisingly, currency has been a notable headwind. We see the potential to expand within current clients by adding more seats and new products.
- ▶ We have noted gross margins of around 88% to 90% for the last few years, and expect comparable performance through 2019. Annual EBITDA margins narrowed over the last few years, and we see that trend ending in 2017, as ANSS previously made acquisitions and spent notably on R&D. Nonetheless, we think EBITDA margins will remain around 49% to 50% through 2018. We think ANSS is committed to offering a comprehensive suite of software tools for its clients.
- ▶ We project non-GAAP EPS of \$3.96 for 2017, \$4.20 for 2018, and \$4.54 in 2019. In February 2017, ANSS announced a 5 million share stock buyback. ANSS repurchased 3.8 million shares in 2015 and 3.7 million shares in 2016.

Investment Rationale/Risk

- ▶ We downgraded our opinion on the stock to Sell from Hold in February 2017, after the company reported Q4 results and the stock appreciated notably. Simulation has moved from a specialized niche to a more broadly-based application category, and while some computer-aided design (CAD) companies provide a few related offerings, we see ANSS as the leader with competitive advantages. We note that revenue gains have been moderating, in part due to currency, and we see notable overseas exposure as an important risk factor. We believe the company is overvalued.
- ▶ Risks to our opinion and target price include the potential for a stronger-than-expected recovery in the global economy and the Brexit process having less of a negative impact on European economies and ANSS than we think.
- ▶ Our 12-month target price is \$134. Peers have an estimated median forward P/E of 33.7X and a P/E-to-growth (PEG) ratio of 2.7. Applying these multiples to ANSS and averaging the outputs resulted in our target. We note ANSS's differentiated offerings and market positioning.

Analyst's Risk Assessment

LOW	MEDIUM	HIGH
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Our risk assessment reflects our view of the company's very strong market position within a challenging global macroeconomic environment.

Revenue/Earnings Data

Revenue (Million U.S. \$)

	1Q	2Q	3Q	4Q	Year
2018	--	--	--	--	--
2017	253	264	276	--	--
2016	226	246	246	271	988
2015	218	235	238	252	943
2014	215	232	234	254	936
2013	198	215	213	236	861

Earnings Per Share (U.S. \$)

	1Q	2Q	3Q	4Q	Year
2018	E 0.96	E 1.04	E 1.08	E 1.12	E 4.20
2017	0.73	0.80	0.85	E 1.03	E 3.96
2016	0.63	0.78	0.78	0.80	2.99
2015	0.61	0.68	0.72	0.75	2.76
2014	0.60	0.67	0.70	0.74	2.70
2013	0.54	0.59	0.66	0.80	2.58

Fiscal year ended Dec 31. Next earnings report expected: Late Feb. EPS Estimates based on CFRA's Operating Earnings; historical GAAP earnings are as reported in Company reports.

Dividend Data

No cash dividends have been paid in the last year.

Business Summary November 07, 2017

CORPORATE OVERVIEW. ANSYS, Inc. founded in 1970, is a leading provider of simulation software used by engineers and designers across many area, including automotive, aerospace, energy and biomedical. Simulation becomes increasingly important when composite materials are used and when devices include both mechanical and electronic elements. Simulation not only reduces the cost of prototyping by shifting physical testing to virtual testing, it allows the designer or engineer to optimize design variables and include a wider range of options, in terms of materials used and conditions, without incurring additional costs. By increasing the virtual test phase of the design process, we see users having an increasing ability to create higher quality products more quickly.

While simulation technology has been available since the early 1970s, in many ways simulation is only now becoming a must-have for companies, we believe. Before the advent of fast computers' 3-D modeling software, simulation technology was very expensive and difficult to use. To seed the market for its technology, ANSS works closely with educational facilities to teach the next generation of engineers the value of simulation.

ANSS reports revenues in terms of licenses and maintenance and services. About 60% of revenues comes from licenses, with the remaining 40% coming from maintenance and services. The company's software segment includes both leased software and perpetual. The company has about 55% of license revenues coming from leases and the remaining 45% from perpetual. Recurring revenue equals more than two-thirds of sales, we believe, which includes lease revenues and maintenance sales.

Direct sales account for about three-quarters of revenues and indirect accounts for the balance. Many companies that have such specialized software have higher services sales. We see ANSS managing this by working closely with its reseller network to have them focus on directly servicing accounts, while the company concentrates on higher-margin license sales. Revenues come about equally from North America, Europe and the rest of the world.

COMPETITIVE LANDSCAPE. The market ANSS serves are very competitive. Given that ANSS is a simulation company, it has technology partnerships with many firms/businesses in the mechanical and electronic design markets to be able to transfer data and models, including Autodesk, Dassault Systems, PTC, Siemens Product Lifecycle Management Software Group, as well as Cadence, Synopsys and Mentor Graphics.

There are a few direct competitors, including MSC Software and Exa Corporation, that are smaller and more vertically-focused. ANSS not only works with its technical partners, but also competes with them. While most of the above-mentioned, as technical partners, have some prototyping ability, ANSS has a broader range of tools and physics, we believe.

MARKET PROFILE. The market for simulation tools was \$2.9 billion in 2011, and was expected to grow to \$5.7 billion by 2016, resulting in a compound annual growth rate (CAGR) of 14%, according to industry analyst firm CIMdata.

CIMdata estimates the overall market for product lifecycle management tools, which includes computer-aided design, workflow and simulation, was a \$30 billion market in 2011, and saw it growing to \$50 billion by 2016, for a CAGR of 10.7%.

We see growth in this market coming from greater adoption, driven by lower-cost higher-powered computing and the competitive pressures to make better products more quickly.

FINANCIAL TRENDS. ANSS's revenues rose from \$691 million in 2011 to \$989 million in 2016. Over the same period, net income increased from \$181 million to \$266 million.

As of December 2016, ANSS had \$823 million in cash and short-term investments and no debt. We have noted a steady increasing trend. As of December 2008, the company had \$344 million in cash and short-term investments and \$227 million in debt.

Acquisitions have been an important part of ANSS's growth over the years. For example, ANSS purchased Apache Design in August 2011 for \$314 million. Apache built on ANSS's expansion into the electronics market with technology to help minimize the power used by devices. Acquisitions are likely to continue to be part of the company's growth strategy, we expect. Since then, the company has made a number of small acquisitions.

Corporate Information
Investor Contact

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Officers
Chrmn

J.E. Cashman, III

CEO & Pres

A.S. Gopal

CFO & Chief Admin Officer

M.T. Shields

Secy & General Counsel

J. Lee

CTO

M. Engelman

Board Members

J.E. Cashman, III

G.E. DuBois

A.S. Gopal

R.W. Hovsepian

W.R. McDermott

B.C. Morley

B.V. Scherer

M.C. Thurk

P.J. Zilvitis

Domicile

Delaware

Founded

1970

Employees

2,900

Stockholders

151

Ansys, Inc.

Quantitative Evaluations					Expanded Ratio Analysis																																													
Fair Value Rank	3	1	2	3	4	5																																												
		LOWEST				HIGHEST																																												
		Based on CFRA's proprietary quantitative model, stocks are ranked from most overvalued [1] to most undervalued [5].																																																
Fair Value Calculation	\$137.68	Analysis of the stock's current worth, based on CFRA's proprietary quantitative model suggests that ANSS is slightly overvalued by \$10.51 or 7.1%.																																																
Volatility		LOW	AVERAGE	HIGH																																														
Technical Evaluation	BULLISH	Since October, 2017, the technical indicators for ANSS have been BULLISH.																																																
Insider Activity		UNFAVORABLE	NEUTRAL	FAVORABLE																																														
		<table border="1"> <thead> <tr> <th colspan="5">Key Growth Rates and Averages</th> </tr> <tr> <th colspan="5">Past Growth Rate [%]</th> </tr> <tr> <th></th> <th>1 Year</th> <th>3 Years</th> <th>5 Years</th> <th></th> </tr> </thead> <tbody> <tr> <td>Sales</td> <td>4.85</td> <td>4.70</td> <td>7.41</td> <td></td> </tr> <tr> <td>Net Income</td> <td>5.19</td> <td>2.69</td> <td>8.01</td> <td></td> </tr> <tr> <td colspan="5">Ratio Analysis [Annual Avg.]</td> </tr> <tr> <td>Net Margin [%]</td> <td>NM</td> <td>NM</td> <td>NM</td> <td></td> </tr> <tr> <td>Return on Equity [%]</td> <td>12.07</td> <td>11.74</td> <td>11.65</td> <td></td> </tr> </tbody> </table>									Key Growth Rates and Averages					Past Growth Rate [%]						1 Year	3 Years	5 Years		Sales	4.85	4.70	7.41		Net Income	5.19	2.69	8.01		Ratio Analysis [Annual Avg.]					Net Margin [%]	NM	NM	NM		Return on Equity [%]	12.07	11.74	11.65	
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Company Financials Fiscal year ending Dec. 31										
Per Share Data [U.S. \$]	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Tangible Book Value	8.15	7.28	7.12	6.38	3.65	1.57	2.36	-0.54	-2.67	0.13
Free Cash Flow	3.95	3.92	3.90	3.28	2.96	3.10	1.68	1.87	2.17	1.50
Earnings	2.99	2.76	2.70	2.58	2.14	1.91	1.64	1.27	1.29	1.02
Earnings [Normalized]	2.67	2.44	2.32	2.12	1.94	1.77	1.45	1.21	1.20	0.96
Dividends	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Payout Ratio [%]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P/E Ratio: High	33.1	35.6	32.3	34.8	34.8	32.6	32.7	34.6	38.7	41.8
P/E Ratio: Low	26.9	28.5	26.3	26.5	25.8	23.9	23.6	14.2	15.9	21.0
Income Statement Analysis [Million U.S. \$]										
Revenue	988	943	936	861	798	691	580	517	478	385
Operating Income	377	354	349	322	295	268	219	187	170	127
Depreciation + Amortization	69.6	77.7	81.9	80.6	84.7	65.0	59.7	63.0	48.2	38.4
Interest Expense	0.22	0.33	0.78	1.17	2.66	3.33	4.49	10.40	9.34	6.82
Pretax Income	380	357	348	322	294	265	216	174	167	124
Effective Tax Rate	30.2	29.2	26.8	23.9	30.7	31.8	29.2	32.9	33.0	33.7
Net Income	266	253	255	245	203	181	153	116	112	82
Net Income [Normalized]	238	223	218	202	184	167	135	111	104	78
Balance Sheet and Other Financial Data [Million U.S. \$]										
Cash	823	785	789	743	577	472	473	344	234	172
Current Assets	1,169	1,076	1,082	1,068	913	740	715	515	397	305
Total Assets	2,801	2,730	2,753	2,722	2,607	2,448	2,127	1,920	1,865	969
Current Liabilities	539	484	465	440	477	439	311	267	268	196
Long Term Debt	NA	NA	NA	NA	NA	53.1	127.6	198.7	249.8	52.4
Total Capital	2,208	2,194	2,218	2,136	1,993	1,882	1,689	1,539	1,466	701
Capital Expenditures	12.4	16.1	26.0	28.8	24.0	22.1	14.3	8.3	16.6	10.8
Cash from Operations	357	368	385	333	298	308	167	174	197	127
Current Ratio	2.17	2.22	2.33	2.42	1.91	1.69	2.30	1.93	1.48	1.56
% Long Term Debt of Capitalization	NA	NA	NA	NA	NA	2.82	7.55	12.91	17.04	7.48
% Net Income of Revenue	26.9	26.8	27.2	28.5	25.5	26.1	26.4	22.5	23.3	21.4
% Return on Assets	8.51	8.08	7.96	7.56	7.30	7.31	6.77	6.18	7.49	8.46
% Return on Equity	12.1	11.4	11.7	12.0	11.0	11.0	10.8	9.3	12.2	14.0

Source: S&P Global Market Intelligence. Data may be preliminary or restated; before results of discontinued operations/special items. Per share data adjusted for stock dividends; EPS diluted. E-Estimated. NA-Not Available. NM-Not Meaningful. NR-Not Ranked. UR-Under Review.

Ansys, Inc.

Sub-Industry Outlook

Our fundamental outlook for the Application Software sub-industry for the next 12 months is neutral. IDC saw a compound annual growth rate [CAGR] in software revenue from 2016 to 2021 of 7%, reflecting a strong 18% gain from subscriptions [i.e., cloud offerings], a modest increase of 2% from maintenance, and a decline from licenses. We saw the June 2016 Brexit leave decision and the November 2016 elections in the U.S. contributing to dollar strength versus major foreign currencies, but noted a reversal of that trend in 2017.

We continue to think technology spending levels will be linked to the broader global economy. We expect sales cycles for software to remain long in the context of the past decade or so, with layers of approval still in place as customers remain cautious. We think buyers for some time have been focused on return on investment and cost of ownership, and this emphasis was more pronounced during the recent Great Recession, as customers became more selective about upgrading to new releases and vendors faced heightened competition. More recently, buyers have better positioned themselves by purchasing more from fewer vendors, some of which have perhaps regained some leverage through M&A. We see the emergence of cloud offerings as providing clients and users more flexibility.

We think productivity enhancements offered by software often makes it an attractive investment. We continue to expect growth for analytical software that enables more informed decision making and/or helps operational efficiency. We think the critical role the Internet plays within businesses and organizations has created demand for cloud software [often referred to as SaaS or "software as a service" or subscription solutions].

Year to date through October 31, 2017, the Application Software index rose 34.59%,

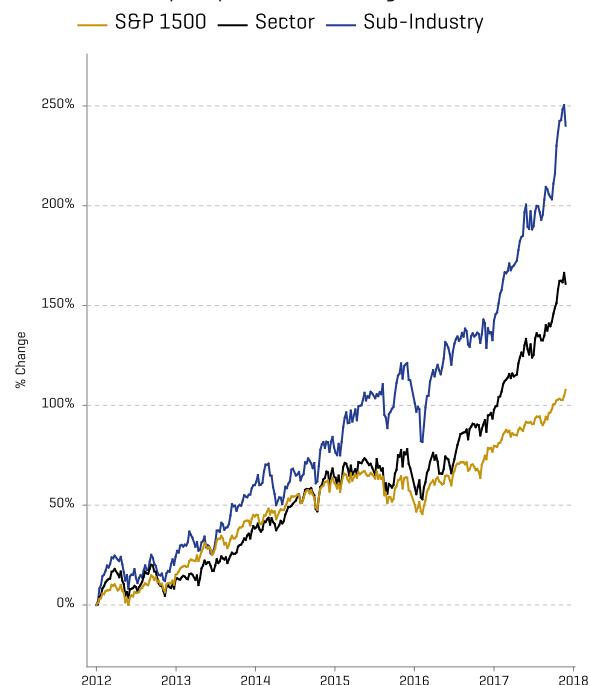
compared with the S&P 1500's increase of 14.5%. In 2016, the Application Software index rose 7.8% versus a 10.6% gain in the S&P 1500. We think this performance reflects enthusiasm related to cloud offerings and related opportunities. We also think growth related to the cloud and in bookings are requisite to drive the sub-industry higher. We tend to favor companies with offerings of mission critical products, strong franchisees, and what we view as healthy balance sheets. As application software companies hire, invest, and adjust related to demand, we see somewhat limited margin expansion ahead.

/Scott Kessler

Industry Performance

GICS Sector: Information Technology Sub-Industry: Application Software

Based on S&P 1500 Indexes
Five-Year market price performance through Dec 02, 2017



NOTE: All Sector & Sub-Industry information is based on the Global Industry Classification Standard (GICS).

Past performance is not an indication of future performance and should not be relied upon as such.

Source: S&P Global Market Intelligence

Sub-Industry: Application Software Peer Group*: Application Software

Peer Group	Stock Symbol	Exchange	Currency	Recent Stock Price (\$)	Stk. Mkt. Cap. (M \$)	30-Day Price Chg. (%)	1-Year Price Chg. (%)	P/E Ratio	Yield (%)	Return on Equity (%)	LTD to Cap (%)
Ansyes, Inc.	ANSS	NasdaqGS	USD	148.19	12,575	8.4	57.6	47	Nil	12.1	NA
Cadence Design Systems, Inc.	CDNS	NasdaqGS	USD	43.91	12,398	1.7	67.1	48	Nil	19.2	44.8
Citrix Systems, Inc.	CTXS	NasdaqGS	USD	87.63	13,204	6.1	1.0	30	Nil	23.4	NA
Constellation Software Inc.	CNSW.F	OTCPK	USD	583.52	12,431	1.9	25.1	58	0.7	52.0	42.2
Micro Focus International plc	MFGP	NYSE	USD	33.50	14,658	-4.1	NM	47	Nil	9.8	46.9
Mobileye N.V.	MBBY.F	OTCPK	USD	62.81	13,948	0.2	68.7	NM	Nil	17.9	NA
Snap Inc.	SNAP	NYSE	USD	13.78	11,893	-10.2	NM	NM	Nil	-45.1	NA
Splunk Inc.	SPLK	NasdaqGS	USD	80.09	11,212	19.0	39.0	NM	Nil	-42.7	NA
Synopsys, Inc.	SNPS	NasdaqGS	USD	90.38	13,579	4.5	49.4	NM	Nil	4.2	NA
The Sage Group plc	SGPY.Y	OTCPK	USD	41.94	11,330	5.9	27.6	35	1.7	21.7	32.8
Workday, Inc.	WDAY	NasdaqGS	USD	103.00	13,802	-7.2	22.2	NM	Nil	-35.5	31.5

*For Peer Groups with more than 10 companies or stocks, selection of issues is based on market capitalization.

NA-Not Available NM-Not Meaningful.

Note: Peers are selected based on Global Industry Classification Standards and market capitalization. The peer group list includes companies with similar characteristics, but may not include all the companies within the same industry and/or that engage in the same line of business.

Ansys, Inc.

Analyst Research Notes and other Company News

November 03, 2017

05:34 pm ET... CFRA REITERATES SELL OPINION ON SHARES OF ANSYS, INC. [ANSS 149.1**]: We raise our 12-month target to \$134 from \$111. Peers have a median out-year P/E of 33.7 and a P/E-to-growth of 2.7. Applying these multiples and averaging the outputs resulted in our target. We increase our EPS estimates for '17 to \$3.96 from \$3.81 and '18 to \$4.20 from \$4.14, and set '19's at \$4.54. ANSS posts non-GAAP Q3 EPS of \$1.05 vs. \$0.95, above the S;P Capital IQ consensus of \$0.97. Revenues rose 12%, reflecting 25 customers with orders over \$1 million. We see risks as to increasing average deal size, and note operating margin slipped. We still see ANSS as overvalued. /Scott Kessler

August 03, 2017

01:54 pm ET... CORRECTION - CFRA REITERATES SELL OPINION ON SHARES OF ANSYS, INC. [ANSS 124.11**]: We raise our 12-month target price by \$6 to \$111. Peers have a median forward P/E of 29.7X and a P/E-to-growth of 2.5. Applying these multiples and averaging the outputs result in our target. We modestly raise our EPS estimates for '17 by \$0.04 to \$3.81 [previously indicated \$3.18] and '18 by \$0.03 to \$4.14. ANSS posts Q2 non-GAAP EPS of \$0.99 vs. \$0.93, compared with our estimate of \$0.92 and the S;P Capital IQ consensus of \$0.91. Revenues rose 7%, slightly above our projection. We note weakness in Germany and the U.K. We still see valuation as excessive, given ANSS's growth. /S. Kessler

June 20, 2017

Ansyes, Inc. appointed Janet Lee as general counsel. Lee will help the engineering simulation leader navigate sophisticated legal topics as it enters the next phase of its growth. Lee brings the company's international legal and business expertise from more than two decades of experience working at law firms and high-tech companies around the world. She most recently served as senior legal officer at HERE Technologies.

May 04, 2017

04:48 pm ET... CFRA REITERATES SELL OPINION ON SHARES OF ANSYS, INC. [ANSS 119.45**]: We raise our 12-month target price by \$5 to \$105. Design-oriented software peers have median forward P/E of 26.6X and a P/E-to-growth of 2.4. Applying these multiples and averaging the outputs results in our target. We raise our EPS estimates by \$0.02 to \$3.77 for '17 and \$0.03 to \$4.11 for '18. ANSS posts non-GAAP Q1 EPS of \$0.89 vs. \$0.77, \$0.05 above our estimate and \$0.06 more than the S;P Capital IQ consensus. Revenues rose 12%, well above our estimate, driven by North America and Asia Pacific with strength from electronics. Nonetheless, we think ANSS is excessively valued. /S. Kessler

May 01, 2017

On May 1, 2017, Ansys, Inc. entered into an agreement and general release with Walid Abu-Hadba, pursuant to which Mr. Abu-Hadba, as previously announced, resigned as the Company's Chief Product Officer effective as of May 1, 2017. The agreement and general release provides for, among other things, a cash separation payment equal to approximately \$202,894, a general release of claims by Mr. Abu-Hadba in favor of the Company and the termination of all of Mr. Abu-Hadba's outstanding unvested equity awards.

April 03, 2017

ANSYS, Inc. is bolstering its executive team and strengthening its long-term strategic development capabilities by appointing industry veteran Matthew Zack as its vice president of business development and corporate marketing. Zack joins the company from SAP, where his most recent role was senior corporate development executive. In that role, he identified targets, executed transactions and delivered on the business cases for shareholders. Previously, Zack served as the executive vice president and chief financial officer of Ariba. He was part of the management team that transformed Ariba to the cloud, fueling its growth and a nearly 400% increase in share price. Before joining Ariba, Zack headed corporate development at FreeMarkets and served in various consulting roles at Accenture.

February 23, 2017

11:40 am ET... S&P CAPITAL IQ DOWNGRADES OPINION ON SHARES OF ANSYS, INC. TO SELL FROM HOLD [ANSS 104.33**]: We raise our 12-month target price

by \$10 to \$100. Design-focused software peers have a median forward P/E of 24.7X and a P/E-to-growth of 2.2. Applying the multiples results in our target. We cut our '17 EPS estimate to \$3.75 from \$3.91 and set '18's at \$4.08. ANSS posts Q4 non-GAAP EPS of \$0.98 vs. \$0.91, \$0.03 below our estimate, but \$0.02 above the Capital IQ consensus. Non-GAAP revenues rose 7%, modestly above our expectation. We see benefits from potential improvements in U.S. growth and gains from "announced realignment initiatives," but view ANSS as overvalued. /S. Kessler

February 22, 2017

On February 16, 2017, ANSYS, Inc. received the resignation of Walid Abu-Hadba, the Company's Chief Product Officer, to be effective as of May 1, 2017.

December 23, 2016

on December 22, 2016, ANSYS, Inc. entered into a Transition Agreement with Mr. James E. Cashman III, it's current Chief Executive Officer and a member of the Board of Directors of the Company, pursuant to which Mr. Cashman will become the Chairman of the Board, effective as of January 1, 2017.

November 03, 2016

01:40 pm ET... S&P CAPITAL IQ REITERATES HOLD OPINION ON SHARES OF ANSYS, INC. [ANSS 85.29***]: Our 12-month target remains \$90. Peers have a median forward P/E of 23X and a P/E-to-growth of 2.1. Applying those multiples and averaging the outputs result in our target. We slightly raise our EPS estimates for '16 to \$3.62 from \$3.56 and '17 to \$3.91 from \$3.88. ANSS posts non-GAAP Q3 EPS of \$0.95 vs. \$0.90, \$0.03 above the Capital IQ estimate. Revenues rose 3%, and missed our expectations, reflecting an increase in leasing and a challenging comparison, and we note a decline in software license revenues. We see challenges for the company and view the shares as fairly valued. /S. Kessler

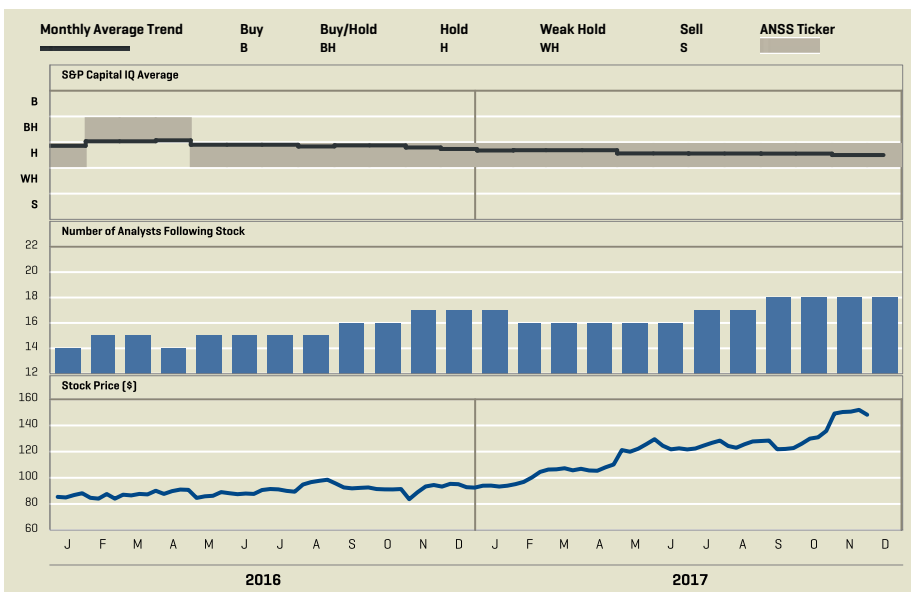
November 01, 2016

02:34 pm ET... S&P CAPITAL IQ UPGRADES OPINION ON SHARES OF ANSYS, INC. TO HOLD FROM SELL [ANSS 89.56***]: The stock has fallen below our 12-month target price of \$90, and we now see it as reasonably valued. We believe ANSS is a well-positioned and well-managed company that benefits from healthy economic growth and infrastructure spending. However, we see related uncertainties, and note the company is scheduled to report Q3 results on the morning of Thursday, November 3. Importantly, we think ANSS announced leadership changes some two months ago, including a plan for the long-time CEO [since 2000] to become Chairman and a company board member to become CEO. /S. Kessler

Note: Research notes reflect S&P Global Market Intelligence's published opinions and analysis on the stock at the time the note was published. The note reflects the views of the equity analyst as of the date and time indicated in the note, and may not reflect S&P Global Market Intelligence's current view on the company.

Ansys, Inc.

Analysts' Recommendations



Wall Street Consensus Opinion

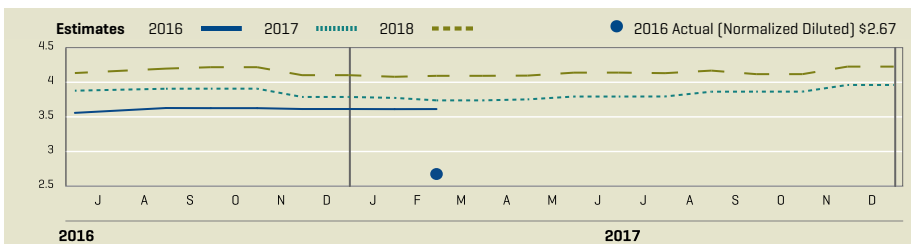
HOLD

Wall Street Consensus vs. Performance

For fiscal year 2017, analysts estimate that ANSS will earn USD \$3.96. For the 3rd quarter of fiscal year 2017, ANSS announced earnings per share of USD \$0.85, representing 21.5% of the total revenue estimate. For fiscal year 2018, analysts estimate that ANSS's earnings per share will grow by 7% to USD \$4.23.

	No. of Recommendations	% of Total	1 Mo. Prior	3 Mos. Prior
Buy	2	11	2	2
Buy/Hold	0	0	0	0
Hold	13	72	13	13
Weak Hold	2	11	2	3
Sell	1	6	1	0
No Opinion	0	0	0	0
Total	18	100	18	18

Wall Street Consensus Estimates



Fiscal Years	Avg Est.	High Est.	Low Est.	# of Est.	Est. P/E
2018	4.23	4.40	4.04	18	35.1
2017	3.96	3.99	3.89	18	37.4
2018 vs. 2017	▲7%	▲10%	▲4%	0%	▼-6%
Q4'18	1.13	1.20	1.08	14	NM
Q4'17	1.03	1.06	1.00	17	NM
Q4'18 vs. Q4'17	▲10%	▲13%	▲8%	▼-18%	NA

Forecasts are not reliable indicator of future performance.

Note: A company's earnings outlook plays a major part in any investment decision. S&P Global Market Intelligence organizes the earnings estimates of over 2,300 Wall Street analysts, and provides their consensus of earnings over the next two years, as well as how those earnings estimates have changed over time. Note that the information provided in relation to consensus estimates is not intended to predict actual results and should not be taken as a reliable indicator of future performance.

Note: For all tables, graphs and charts in this report that do not cite any reference or source, the source is S&P Global Market Intelligence.

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Glossary

STARS

Since January 1, 1987, CFRA Equity and Fund Research Services, and its predecessor S&P Capital IQ Equity Research has ranked a universe of U.S. common stocks, ADRs (American Depositary Receipts), and ADSs (American Depositary Shares) based on a given equity's potential for future performance. Similarly, we have ranked Asian and European equities since June 30, 2002. Under proprietary STARS (Stock Appreciation Ranking System), equity analysts rank equities according to their individual forecast of an equity's future total return potential versus the expected total return of a relevant benchmark (e.g., a regional index [S&P Asia 50 Index, S&P Europe 350® Index or S&P 500® Index]), based on a 12-month time horizon. STARS was designed to meet the needs of investors looking to put their investment decisions in perspective. Data used to assist in determining the STARS ranking may be the result of the analyst's own models as well as internal proprietary models resulting from dynamic data inputs.

S&P Global Market Intelligence's Quality Ranking

(also known as **S&P Capital IQ Earnings & Dividend Rankings**) - Growth and stability of earnings and dividends are deemed key elements in establishing S&P Global Market Intelligence's earnings and dividend rankings for common stocks, which are designed to encapsulate the nature of this record in a single symbol. It should be noted, however, that the process also takes into consideration certain adjustments and modifications deemed desirable in establishing such rankings. The final score for each stock is measured against a scoring matrix determined by analysis of the scores of a large and representative sample of stocks. The range of scores in the array of this sample has been aligned with the following ladder of rankings:

A+	Highest	B	Below Average
A	High	B-	Lower
A-	Above Average	C	Lowest
B+	Average	D	In Reorganization
NR	Not Ranked		

EPS Estimates

CFRA's earnings per share (EPS) estimates reflect analyst projections of future EPS from continuing operations, and generally exclude various items that are viewed as special, non-recurring, or extraordinary. Also, EPS estimates reflect either forecasts of equity analysts; or, the consensus (average) EPS estimate, which are independently compiled by S&P Global Market Intelligence, a data provider to CFRA. Among the items typically excluded from EPS estimates are asset sale gains; impairment, restructuring or merger-related charges; legal and insurance settlements; in process research and development expenses; gains or losses on the extinguishment of debt; the cumulative effect of accounting changes; and earnings related to operations that have been classified by the company as discontinued. The inclusion of some items, such as stock option expense and recurring types of other charges, may vary, and depend on such factors as industry practice, analyst judgment, and the extent to which some types of data is disclosed by companies.

12-Month Target Price

The equity analyst's projection of the market price a given security will command 12 months hence, based on a combination of intrinsic, relative, and private market valuation metrics, including Fair Value.

CFRA Equity Research

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Abbreviations Used in Equity Research Reports

CAGR	- Compound Annual Growth Rate
CAPEX	- Capital Expenditures
CY	- Calendar Year
DCF	- Discounted Cash Flow
DDM	- Dividend Discount Model
EBIT	- Earnings Before Interest and Taxes
EBITDA	- Earnings Before Interest, Taxes, Depreciation & Amortization
EPS	- Earnings Per Share
EV	- Enterprise Value
FCF	- Free Cash Flow
FFO	- Funds From Operations

FY	- Fiscal Year
P/E	- Price/Earnings
P/NAV	- Price to Net Asset Value PEG Ratio - P/E-to-Growth Ratio PV - Present Value
R&D	- Research & Development ROCE - Return on Capital Employed ROE - Return on Equity
ROI	- Return on Investment
ROIC	- Return on Invested Capital
ROA	- Return on Assets
SG&A	- Selling, General & Administrative Expenses
SOTP	- Sum-of-The-Parts
WACC	- Weighted Average Cost of Capital

Dividends on American Depositary Receipts (ADRs) and American Depositary Shares (ADSs) are net of taxes (paid in the country of origin).

Qualitative Risk Assessment

Reflects an equity analyst's view of a given company's operational risk, or the risk of a firm's ability to continue as an ongoing concern. The Qualitative Risk Assessment is a relative ranking to the U.S. STARS universe, and should be reflective of risk factors related to a company's operations, as opposed to risk and volatility measures associated with share prices. For an ETF this reflects on a capitalization-weighted basis, the average qualitative risk assessment assigned to holdings of the fund.

STARS Ranking system and definition:

★★★★★ 5-STARs (Strong Buy):

Total return is expected to outperform the total return of a relevant benchmark, by a notable margin over the coming 12 months, with shares rising in price on an absolute basis.

★★★★★ 4-STARs (Buy):

Total return is expected to outperform the total return of a relevant benchmark over the coming 12 months, with shares rising in price on an absolute basis.

★★★★★ 3-STARs (Hold):

Total return is expected to closely approximate the total return of a relevant benchmark over the coming 12 months, with shares generally rising in price on an absolute basis.

★★★★★ 2-STARs (Sell):

Total return is expected to underperform the total return of a relevant benchmark over the coming 12 months, and the share price is not anticipated to show a gain.

★★★★★ 1-STAR (Strong Sell):

Total return is expected to underperform the total return of a relevant benchmark by a notable margin over the coming 12 months, with shares falling in price on an absolute basis.

Relevant benchmarks:

In North America, the relevant benchmark is the S&P 500 Index, in Europe and in Asia, the relevant benchmarks are the S&P Europe 350 Index and the S&P Asia 50 Index, respectively.

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Stocks are ranked in accordance with the following ranking methodologies:

STARS Stock Reports:

Qualitative STARS recommendations are determined and assigned by equity analysts. For reports containing STARS recommendations refer to the Glossary section of the report for detailed methodology and the definition of STARS rankings.

Quantitative Stock Reports:

Quantitative recommendations are determined by ranking a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five (six) model category scores are then weighted and rolled up into a single percentile ranking for that company. For reports containing quantitative recommendations refer to the Glossary section of the report for detailed methodology and the definition of Quantitative rankings.

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STARS Stock Reports:

Global STARS Distribution as of June 30, 2017

Ranking	North America	Europe	Asia	Global
Buy	37.4%	25.9%	36.6%	35.4%
Hold	55.1%	56.1%	39.4%	53.5%
Sell	7.5%	18.0%	24.0%	11.1%
Total	100.0%	100.0%	100.0%	100.0%

Analyst Certification:

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