

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): November 5, 2020

PDF SOLUTIONS, INC.
(Exact name of registrant as specified in its charter)

000-31311
(Commission File Number)

Delaware
(State or Other Jurisdiction of Incorporation)

25-1701361
(I.R.S. Employer Identification No.)

2858 De La Cruz Boulevard
Santa Clara, CA 95050
(Address of principal executive offices, with zip code)

(408) 280-7900
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Exchange Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.00015 par value	PDFS	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 or Rule 12b-2 of the Securities Exchange Act of 1934.

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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Item 2.02. Results of Operations and Financial Condition.

On November 5, 2020 PDF Solutions (the “Company”) issued a press release regarding its financial results and certain other information related to the third quarter of 2020. The Company also posted on the Investors section of its website (www.pdf.com) a management report with regard to the third quarter of 2020. Copies of the press release and management report are attached to this report as Exhibit 99.1 and 99.2, respectively. Information on the website is not, and will not be deemed, a part of this report or incorporated into any other filings the Company makes with the Securities and Exchange Commission.

The information in this Item 2.02, including Exhibits 99.1 and 99.2, is being furnished and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities under that Section, and shall not be deemed incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release dated November 5, 2020, regarding financial results and certain other information related to the third quarter of 2020.
99.2	Management Report by PDF Solutions, Inc. as of November 5, 2020.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PDF SOLUTIONS, INC.
(Registrant)

By: /s/ Adnan Raza
Adnan Raza
EVP, Finance, and Chief Financial Officer
(principal financial and accounting officer)

Dated: November 5, 2020

News Release

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PDF Solutions® Reports Third Quarter 2020 Results

Business Highlights

- **Total revenues of \$23.1 million, up 5% over last year’s comparable quarter**
- **Analytics revenue of \$14.3 million, up 13% over last year’s comparable quarter**
- **Analytics accounted for 62% of third quarter revenues**
- **GAAP Gross Margin of 59% for the third quarter of 2020**
- **Non-GAAP Gross Margin of 63% for the third quarter of 2020**
- **Cash, cash equivalents and short-term investments of \$168.4 million at the end of third quarter of 2020**

SANTA CLARA, Calif. — Thursday, November 5, 2020 — PDF Solutions, Inc. (“PDF Solutions” or the “Company”) (NASDAQ: PDFS), a leading provider of differentiated data and analytics solutions to the semiconductor and electronics industries, today announced financial results for its third quarter ended September 30, 2020.

Highlights of Third Quarter 2020 Financial Results

Total revenues for the third quarter of 2020 were \$23.1 million, compared to \$21.4 million for the second quarter of 2020 and \$21.9 million for the third quarter of 2019. Analytics revenue for the third quarter of 2020 was \$14.3 million, compared to \$15.2 million for the second quarter of 2020 and \$12.7 million for the third quarter of 2019. Integrated Yield Ramp revenue for the third quarter of 2020 was \$8.8 million, compared to \$6.2 million for the second quarter of 2020 and \$9.2 million for the third quarter of 2019.

GAAP gross margin for the third quarter of 2020 was 59%, compared to 58% for the second quarter of 2020 and 60% for the third quarter of 2019.

Non-GAAP gross margin for the third quarter of 2020 was 63%, compared to 63% for the second quarter of 2020 and 64% for the third quarter of 2019.

On a GAAP basis, net loss for the third quarter of 2020 was \$2.7 million, or (\$0.08) per basic and diluted share, compared to a net loss of \$3.7 million, or (\$0.11) per basic and diluted share, for the second quarter of 2020, and compared to a net loss of \$0.7 million, or (\$0.02) per basic and diluted share, for the third quarter of 2019.

Non-GAAP net income for the third quarter of 2020 was \$0.1 million, or \$0.00 per diluted share, compared to a net income of \$0.5 million, or \$0.01 per diluted share, for the second quarter of 2020, and compared to net income of \$1.6 million, or \$0.05 per diluted share, for the third quarter of 2019.

Cash, cash equivalents and short-term investments at September 30, 2020, were \$168.4 million, compared to cash and cash equivalents of \$97.6 million at December 31, 2019. The increase was due mainly to the gross proceeds from issuance of common stock pursuant to strategic partnership with Advantest Corporation of \$65.2 million during the third quarter of 2020. Operating activities generated \$0.2 million in cash during the third quarter of 2020.

Conference Call

As previously announced, PDF Solutions will discuss these results on a live conference call beginning at 2:00 p.m. Pacific Time / 5:00 p.m. Eastern Time today. The call will be simultaneously webcast on PDF Solutions' website at <http://ir.pdf.com/webcasts>. A replay of the webcast will be available at the same website address beginning approximately two hours after completion of the live call. A copy of this press release, including the disclosure and reconciliation of certain non-GAAP financial measures to the comparable GAAP measures, which non-GAAP measures may be used periodically by PDF Solutions' management when discussing financial results with investors and analysts, will also be available on PDF Solutions' website at <http://www.pdf.com/press-releases> following the date of this release.

Third Quarter 2020 Financial Commentary Available Online

A Management Report reviewing the Company's third quarter of 2020 financial results will be furnished to the Securities and Exchange Commission on Form 8-K and published on the Company's website at <http://ir.pdf.com/financial-reports>. Analysts and investors are encouraged to review this commentary prior to participating in the conference call.

Information Regarding Use of Non-GAAP Financial Measures

In addition to providing results that are determined in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP), PDF Solutions also provides certain non-GAAP financial measures. Non-GAAP gross margin excludes stock-based compensation expense and the amortization of acquired technology. Non-GAAP net income excludes the effects of non-recurring items (including restructuring charges, severance payments, adjustments to contingent consideration related to acquisition, and expenses related to an arbitration proceeding for a disputed contract with a customer), write-down in value of property and equipment, stock-based compensation expense, amortization of acquired technology and other acquired intangible assets, and their related income tax effects, as applicable, as well as adjustments for the non-cash portion of income taxes and tax impact of the CARES Act. These non-GAAP financial measures are used by management internally to measure the Company's profitability and performance. PDF Solutions' management believes that these non-GAAP measures provide useful supplemental information to investors regarding the Company's ongoing operations in light of the fact that none of these categories of expense has a current effect on the future uses of cash (with the exception of certain non-recurring items) nor do they impact the generation of current or future revenues. These non-GAAP results should not be considered an alternative to, or a substitute for, GAAP financial information, and may differ from similarly titled non-GAAP measures used by other companies. In particular, these non-GAAP financial measures are not a substitute for GAAP measures of income or loss as a measure of performance, or to cash flows from operating, investing and financing activities as a measure of liquidity. Since management uses these non-GAAP financial measures internally to measure profitability and performance, PDF Solutions has included these non-GAAP measures to give investors an opportunity to see the Company's financial results as viewed by management. A reconciliation of the comparable GAAP financial measures to the non-GAAP financial measures is provided at the end of the Company's financial statements presented below.

Forward-Looking Statements

The statements planned to be made on the planned conference call regarding the Company's future expected business performance and financial results and the Company's recent strategic agreement with Advantest are forward looking and are subject to future events and circumstances. Actual results could differ materially from those expressed in these forward-looking statements. Risks and uncertainties that could cause results to differ materially include risks associated with: customers' production volumes under contracts that provide Gainshare royalties, cost and schedule of new product development; continued adoption of the Company's solutions by new and existing customers; project milestones or delays and performance criteria achieved; the provision of technology and services prior to the execution of a final contract; the potential impact of the coronavirus (COVID-19) on the semiconductor industry and on the Company's operations or demand for the Company's products; the time required of the Company's executive management for, and the expenses related to, as well as the success of the Company's strategic growth opportunities and partnerships, including its partnership with Advantest Corporation; and other risks set forth in PDF Solutions' periodic public filings with the Securities and Exchange Commission, including, without limitation, its Annual Reports on Form 10-K, most recently filed for the year ended December 31, 2019, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K and amendments to such reports. The forward-looking statements made in the conference call are made as of the date hereof, and PDF Solutions does not assume any obligation to update such statements nor the reasons why actual results could differ materially from those projected in such statements.

About PDF Solutions

PDF Solutions (NASDAQ: PDFS) offers an end-to-end analytics platform that empowers engineers and data scientists across the semiconductor ecosystem to rapidly improve the yield, quality, and profitability of their products. By combining industry-leading data analytics and professional services with exclusive, differentiated product data generated during the manufacturing process, PDF Solutions is delivering on the promise of Industry 4.0 today by transforming how the ecosystem collects, analyzes, and shares data. Key Fortune 500 organizations around the world rely on PDF Solutions to remove the data barriers that encumber and constrain new product introductions and to deliver the machine learning insights that drive efficient and profitable high-volume manufacturing.

Headquartered in Santa Clara, California, PDF Solutions also operates worldwide in Canada, China, France, Germany, Italy, Japan, Korea, and Taiwan. For the Company's latest news and information, visit <http://www.pdf.com/>.

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PDF SOLUTIONS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)
(In thousands)

	September 30, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 118,386	\$ 97,605
Short-term investments	49,983	—
Accounts receivable, net	40,388	40,651
Prepaid expenses and other current assets	9,310	9,320
Total current assets	218,067	147,576
Property and equipment, net	39,487	40,798
Operating lease right-of-use assets, net	6,712	7,609
Goodwill	2,293	2,293
Intangible assets, net	5,269	6,221
Deferred tax assets, net	30,498	25,327
Other non-current assets	8,282	9,720
Total assets	\$ 310,608	\$ 239,544
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 2,212	\$ 7,636
Accrued compensation and related benefits	5,396	5,072
Accrued and other current liabilities	3,001	1,665
Operating lease liabilities – current portion	1,763	1,867
Deferred revenues – current portion	19,074	10,639
Billings in excess of recognized revenues	1,430	1,117
Total current liabilities	32,876	27,996
Long-term income taxes payable	5,137	5,368
Non-current operating lease liabilities	6,764	7,677
Other non-current liabilities	1,054	2,346
Total liabilities	45,831	43,387
Stockholders' equity:		
Common stock and additional paid-in-capital	\$ 403,455	\$ 325,202
Treasury stock at cost	(94,992)	(91,695)
Accumulated deficit	(42,784)	(35,870)
Accumulated other comprehensive loss	(902)	(1,480)
Total stockholders' equity	264,777	196,157
Total liabilities and stockholders' equity	\$ 310,608	\$ 239,544

PDF SOLUTIONS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)
(In thousands, except per share amounts)

	Three months ended			Nine months ended	
	September 30, 2020	June 30, 2020	September 30, 2019 (1)	September 30, 2020	September 30, 2019(1)
Revenues:					
Analytics	\$ 14,346	\$ 15,172	\$ 12,691	\$ 42,766	\$ 36,099
Integrated yield ramp	8,766	6,237	9,223	22,912	26,924
Total revenues	<u>23,112</u>	<u>21,409</u>	<u>21,914</u>	<u>65,678</u>	<u>63,023</u>
Costs and Expenses:					
Costs of revenues	9,493	8,946	8,715	26,926	24,415
Research and development	8,328	7,754	8,435	24,672	23,993
Selling, general and administrative	8,420	7,737	5,990	24,052	19,940
Amortization of other acquired intangible assets	174	174	174	521	436
Restructuring charges	—	—	—	—	92
Interest and other expense (income), net	361	150	(202)	530	(307)
Loss before income taxes	(3,664)	(3,352)	(1,198)	(11,023)	(5,546)
Income tax expense (benefit)	(930)	300	(511)	(4,109)	(1,458)
Net loss	<u>\$ (2,734)</u>	<u>\$ (3,652)</u>	<u>\$ (687)</u>	<u>\$ (6,914)</u>	<u>\$ (4,088)</u>
Net loss per share:					
Basic	<u>\$ (0.08)</u>	<u>\$ (0.11)</u>	<u>\$ (0.02)</u>	<u>\$ (0.21)</u>	<u>\$ (0.13)</u>
Diluted	<u>\$ (0.08)</u>	<u>\$ (0.11)</u>	<u>\$ (0.02)</u>	<u>\$ (0.21)</u>	<u>\$ (0.13)</u>
Weighted average common shares:					
Basic	35,479	32,886	32,392	33,696	32,405
Diluted	35,479	32,886	32,392	33,696	32,405

(1) In the fourth quarter of 2019, the Company updated its Condensed Consolidated Statements of Comprehensive Loss to change its historical presentation of revenue categories. Previously, the Company presented revenue on two lines: Solutions and Gainshare performance incentives. Included within Solutions, was revenue from software and related revenue, SaaS solutions, Design-for-Inspection (DFI™) licenses, and fixed-price project-based solution implementation services. The previous Gainshare performance incentive category included only revenue from performance incentive programs. The Company now presents revenue in the following categories: Analytics and Integrated Yield Ramp. Integrated Yield Ramp revenue is comprised of all revenue from the Company's Integrated Yield Ramp services engagements that include performance incentives based on customers' yield achievement (i.e. both fixed-fees and Gainshare royalty from such engagements). Analytics comprises all other revenue, including from the Company's licenses and services for Exensio Software, Exensio SaaS, DFI™ and Characterization Vehicle systems that do not include performance incentives based on customers' yield achievement. This prior period presentation had been reclassified to conform to the new revenue presentation.

PDF SOLUTIONS, INC.
 RECONCILIATION OF GAAP TO NON-GAAP GROSS MARGIN (UNAUDITED)
 (In thousands)

	Three months ended			Nine months ended	
	September 30, 2020	June 30, 2020	September 30, 2019	September 30, 2020	September 30, 2019
GAAP					
Total revenues	\$ 23,112	\$ 21,409	\$ 21,914	\$ 65,678	\$ 63,023
Costs of revenues	9,493	8,946	8,715	26,926	24,415
GAAP gross profit	\$ 13,619	\$ 12,463	\$ 13,199	\$ 38,752	\$ 38,608
GAAP gross margin	59%	58%	60%	59%	61%
Non-GAAP					
GAAP gross profit	\$ 13,619	\$ 12,463	\$ 13,199	\$ 38,752	\$ 38,608
Adjustments to reconcile GAAP to non-GAAP gross margin:					
Stock-based compensation expense	790	883	745	2,582	2,404
Amortization of acquired technology	144	143	144	431	431
Non-GAAP gross profit	\$ 14,553	\$ 13,489	\$ 14,088	\$ 41,765	\$ 41,443
Non-GAAP gross margin	63%	63%	64%	64%	66%

PDF SOLUTIONS, INC.
RECONCILIATION OF GAAP TO NON-GAAP NET INCOME (UNAUDITED)
(In thousands, except per share amounts)

	Three months ended			Nine months ended	
	September 30, 2020	June 30, 2020	September 30, 2019	September 30, 2020	September 30, 2019
GAAP net loss	\$ (2,734)	\$ (3,652)	\$ (687)	\$ (6,914)	\$ (4,088)
Adjustments to reconcile GAAP net loss to non-GAAP net income:					
Stock-based compensation expense	3,130	2,978	2,732	9,476	8,642
Amortization of acquired technology	144	143	144	431	431
Amortization of other acquired intangible assets	174	174	174	521	436
Expenses of arbitration (1)	366	363	—	830	—
Write-down in value of property and equipment	—	311	—	311	—
Adjustments to contingent consideration related to acquisition	—	—	30	—	30
Restructuring charges and severance payments	—	—	—	—	92
Tax impact of adjustments	(955)	167	(805)	(1,931)	(2,085)
Tax impact of the CARES Act (2)	—	—	—	(2,261)	—
Non-GAAP net income	\$ 125	\$ 484	\$ 1,588	\$ 463	\$ 3,458
GAAP net loss per diluted share	\$ (0.08)	\$ (0.11)	\$ (0.02)	\$ (0.21)	\$ (0.13)
Non-GAAP net income per diluted share	\$ 0.00	\$ 0.01	\$ 0.05	\$ 0.01	\$ 0.10
Shares used in diluted shares calculation	36,661	33,874	32,997	34,705	33,025

(1) Represents the expenses related to an arbitration proceeding over a disputed customer contract, which expenses are expected to continue until the arbitration is resolved.

(2) Represents the discrete tax benefit recognized from the carryback of net operating losses (NOLs) under the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) enacted in March 2020. The Company does not have any NOLs on a non-GAAP basis and, therefore, it did not recognize this discrete tax benefit in calculating its non-GAAP tax expense and net income.



**Q3 2020
Management Report
November 5, 2020**

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■ Q3 2020 Results

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■ Q3 2020 Non-GAAP Results

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■ Related Information

The following commentary is provided by management and should be referenced in conjunction with PDF Solutions' third quarter of 2020 financial results press release available on its Investor Relations website at <http://www.pdf.com/financial-news>. These remarks represent management's current views of the Company's financial and operational performance and are provided to give investors and analysts further insight into its performance in advance of the earnings call webcast. The Company disclaims any duty to update this information for future events.

PDF Solutions Reports Third Quarter 2020 Results

Q3 2020 Key Metrics

Revenue: \$23.1M

GAAP Gross Margin: 59%

Non-GAAP Gross Margin: 63%

GAAP EPS: (\$0.08)

Non-GAAP EPS: \$0.00

Operating Cash Flow: \$0.2M

Capital Expenditures: \$1.4M

FINANCIAL RESULTS SUMMARY

- Q3 2020 Total revenues of \$23.1M, up 8% over Q2 2020, and up 5% over Q3 2019.
- Q3 2020 Analytics revenue of \$14.3M, down 5% over Q2 2020, and up 13% over Q3 2019.
- Q3 2020 Integrated yield ramp revenue of \$8.8M, up 41% over Q2 2020, and down 5% over Q3 2019.

Revenue by Geographic Area

(Dollars in thousands)

	<u>Q3'20</u>	<u>Q2'20</u>	<u>Q1'20</u>	<u>Q4'19</u>	<u>Q3'19</u>
North America	\$7,754	\$9,969	\$8,687	\$11,007	\$7,384
% of Total	34%	46%	41%	49%	34%
Europe	\$3,581	\$3,983	\$3,561	\$3,363	\$3,355
% of Total	15%	19%	17%	15%	15%
APAC	11,777	7,457	\$8,910	\$8,192	\$11,175
% of Total	51%	35%	42%	36%	51%
Total revenues	\$23,112	\$21,409	\$21,158	\$22,562	\$21,914

Key Financial & Operating Metrics – Quarterly

(in thousands, except share data, which is in millions, and percentages)

	<u>Q3'20</u>	<u>Q2'20</u>	<u>Q1'20</u>	<u>Q4'19</u>	<u>Q3'19</u>
Revenues	\$23,112	\$21,409	\$21,158	\$22,562	\$21,914
GAAP Gross Margin	59%	58%	60%	60%	60%
Non-GAAP Gross Margin	63%	63%	65%	64%	64%
Outstanding Debt	\$0	\$0	\$0	\$0	\$0
Operating Cash Flow	\$245	\$5,250	\$5,380	\$1,579	\$18,045
Capital Expenditures (CAPEX)	\$1,425	\$1,872	\$2,068	\$3,711	\$2,837
\$ Shares Repurchased	\$0	\$0	\$0	\$0	\$1,932
Weighted Average Common Shares Outstanding	35.5	32.9	32.7	32.4	32.4
Effective Tax Rate Benefit (Expense)	25%	(9%)	87%	27%	43%

GAAP / Non-GAAP Presentation

In addition to providing results that are determined in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP), the Company also provides certain non-GAAP financial measures. Non-GAAP gross margin excludes stock-based compensation expense and the amortization of acquired technology. Non-GAAP net income (loss) exclude the effects of non-recurring items (including restructuring charges, severance payments, adjustments to contingent consideration related to acquisition, and expenses related to an arbitration proceeding for a disputed customer contract), write-down in value of property and equipment, stock-based compensation expenses, amortization of acquired technology and other acquired intangible assets, and their related income tax effects, as applicable, as well as adjustments for the non-cash portion of income taxes and tax impact of the CARES Act. These non-GAAP financial measures are used by management internally to measure the Company's profitability and performance. PDF Solutions' management believes that these non-GAAP measures provide useful supplemental measures to investors regarding the Company's ongoing operations in light of the fact that none of these categories of expense has a current effect on the future uses of cash (with the exception of certain non-recurring items) nor do they impact the generation of current or future revenues. These non-GAAP results should not be considered an alternative to, or a substitute for, GAAP financial information, and may be different from similarly titled non-GAAP measures used by other companies. In particular, these non-GAAP financial measures are not a substitute for GAAP measures of income or loss as a measure of performance, or to cash flows from operating, investing and financing activities as a measure of liquidity. Management uses these non-GAAP financial measures internally to measure profitability and performance; these non-GAAP measures are presented here to give investors an opportunity to see the Company's financial results as viewed by management. A detailed reconciliation of the adjustments made to comparable GAAP measures is included herein.

Reconciliation of GAAP to Non-GAAP Net Income (Loss)

(in thousands, except for shares and per share amounts)

	Q3'20	Q2'20	Q1'20	Q4'19	Q3'19
GAAP net loss	\$ (2,734)	\$ (3,652)	\$ (528)	\$ (1,330)	\$ (687)
Adjustments to reconcile GAAP net loss to non-GAAP net income (loss):					
Stock-based compensation expense	3,130	2,978	3,368	2,782	2,732
Amortization of acquired technology	144	143	144	143	144
Amortization of other acquired intangible assets	174	174	173	173	174
Expenses of arbitration (1)	366	363	101	—	—
Write-down in value of property and equipment	—	311	—	—	—
Adjustment to contingent consideration related to acquisition	—	—	—	—	30
Tax impact of adjustments	(955)	167	(1,143)	(700)	(805)
Tax impact of the CARES Act (2)	—	—	(2,261)	—	—
Non-GAAP net income (loss)	\$ 125	\$ 484	\$ (146)	\$ 1,068	\$ 1,588
GAAP net loss per diluted share	\$ (0.08)	\$ (0.11)	\$ (0.02)	\$ (0.04)	\$ (0.02)
Non-GAAP net income (loss) per diluted share	\$ 0.00	\$ 0.01	\$ (0.00)	\$ 0.03	\$ 0.05
Shares used in diluted shares calculation	36,661	33,874	32,703	33,414	32,997

(1) Represents the expenses related to an arbitration proceeding over a disputed customer contract, which expenses are expected to continue until the arbitration is resolved.

(2) Represents the discrete tax benefit recognized from the carryback of net operating losses (NOLs) under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") enacted in March 2020. The Company does not have any NOLs on a non-GAAP basis and, therefore, it did not recognize this discrete tax benefit in calculating its non-GAAP tax expense and net income (loss).

Reconciliation of GAAP to Non-GAAP Spending by Function

(in thousands)

	Q3'20	Q2'20	Q1'20	Q4'19	Q3'19
Cost of Revenue - GAAP	\$ 9,493	\$ 8,946	\$ 8,487	\$ 9,059	\$ 8,715
Adjustments to reconcile GAAP Cost of Revenue to non-GAAP Cost of Revenue:					
Stock-based compensation expense	(790)	(883)	(909)	(782)	(745)
Amortization of acquired technology	(144)	(143)	(144)	(143)	(144)
Cost of Revenue - Non-GAAP	\$ 8,559	\$ 7,920	\$ 7,434	\$ 8,134	\$ 7,826
Research & Development - GAAP	\$ 8,328	\$ 7,754	\$ 8,590	\$ 8,754	\$ 8,435
Adjustments to reconcile GAAP R&D to non-GAAP R&D:					
Stock-based compensation expense	(1,148)	(1,010)	(1,455)	(1,083)	(1,062)
Write-down in value of property and equipment	—	(149)	—	—	—
Adjustment to contingent consideration related to acquisition	—	—	—	—	(30)
Research & Development - Non-GAAP	\$ 7,180	\$ 6,595	\$ 7,135	\$ 7,671	\$ 7,343
Selling, General, & Administrative - GAAP	\$ 8,420	\$ 7,737	\$ 7,895	\$ 6,359	\$ 5,990
Adjustment to reconcile GAAP SG&A to non-GAAP SG&A:					
Stock-based compensation expense	(1,192)	(1,085)	(1,004)	(917)	(925)
Expenses of arbitration (1)	(366)	(363)	(101)	—	—
Write-down in value of property and equipment	—	(162)	—	—	—
Selling, General, & Administrative - Non-GAAP	\$ 6,862	\$ 6,127	\$ 6,790	\$ 5,442	\$ 5,065

(1) Represents the expenses related to an arbitration proceeding over a disputed contract with a customer, which expenses are expected to continue until the arbitration is resolved.