Fluidigm Corporation

Q3 2019

November 2019



Use of forward-looking statements, trademarks

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others, statements regarding the global market opportunity for Fluidigm, health care trends, and prospects for Fluidigm products in light of such anticipated trends; growing demand for Fluidigm products in mass cytometry and genomics markets; growth in the use of Fluidigm products for new applications, including immunology and cancer research; routine use of mass cytometry in future clinical research settings; potential applications for Fluidigm products in human health care research; recurring revenue growth, including due to recently introduced applications and workflows for Fluidigm products; revenue growth rates and strategic elements designed to achieve such growth; potential new products and product strategies; projected annualized consumables pullthrough estimates for company instruments; and anticipated benefits from collaborations and other third-party relationships, as well as operational efficiency initiatives. Forward-looking statements are subject to numerous risks and uncertainties that could cause actual results to differ materially from currently anticipated results, including but not limited to challenges inherent in developing, manufacturing, launching, marketing, and selling new products; risks relating to reliance on sales of capital equipment for a significant proportion of revenues in each quarter; potential product performance and quality issues; the possible loss of key employees, customers, or suppliers; intellectual property risks; competition; uncertainties in contractual relationships; Fluidigm research and development, sales, marketing, and distribution plans and capabilities; reduction in research and development spending or changes in budget priorities by customers; interruptions or delays in the supply of components or materials for, or manufacturing of, products; seasonal variations in customer operations; unanticipated increases in costs or expenses; and risks associated with international operations. Information on these and additional risks and uncertainties and other information affecting Fluidigm's business and operating results is contained in the Fluidigm Annual Report on Form 10-K for the year ended December 31, 2018, and in its other filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof. Fluidigm disclaims any obligation to update these forward-looking statements except as may be required by law.

* * *

Fluidigm, the Fluidigm logo, 48.Atlas, Access Array, Advanta, Biomark, C1, CyTOF, Direct, EP1, Helios, Hyperion, Imaging Mass Cytometry, IMC, Immune Profiling Assay, Juno, Maxpar, MCD, Pathsetter and Polaris are trademarks and/or registered trademarks of Fluidigm Corporation in the United States and/or other countries. All other trademarks are the sole property of their respective owners.

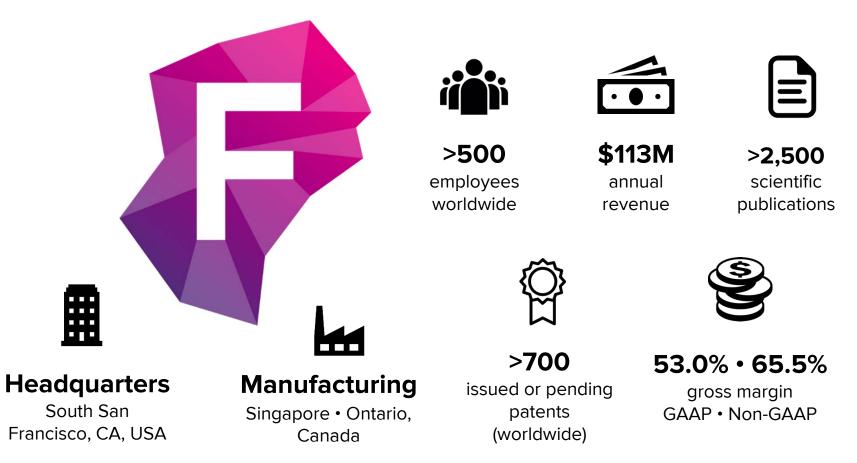
Fluidigm products are for Research Use Only. Not for use in diagnostic procedures.

Use of Non-GAAP financial information

This presentation includes certain financial information presented in accordance with U.S. GAAP and also on a non-GAAP basis for the three and nine-month periods ended September 30, 2019, and September 30, 2018, and for the fiscal years ended December 31, 2016, 2017, and 2018. Management believes that non-GAAP financial measures, taken in conjunction with GAAP financial measures, provide useful information for both management and investors by excluding certain non-cash and other expenses that are not indicative of the company's core operating results. Management uses non-GAAP measures to compare the company's performance relative to forecasts and strategic plans and to benchmark the company's performance externally against competitors. Non-GAAP information is not prepared under a comprehensive set of accounting rules and should only be used to supplement an understanding of the company's operating results as reported under U.S. GAAP. Fluidigm encourages investors to carefully consider its results under GAAP, as well as its supplemental non-GAAP information and the reconciliation between these presentations, to more fully understand its business. Reconciliations between GAAP and non-GAAP operating results are presented in the accompanying tables of this presentation.

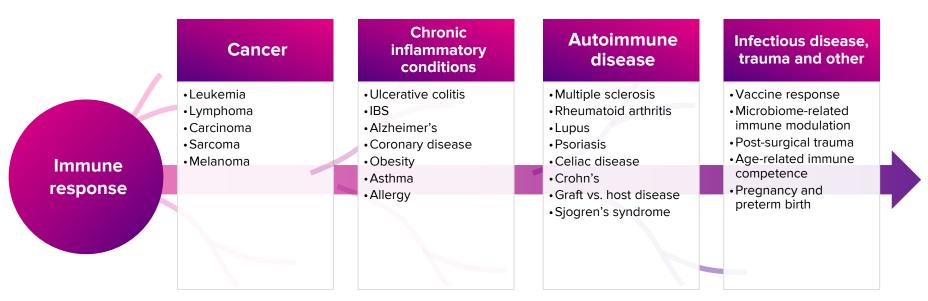
Who are we?

Fluidigm is a leading provider of indispensable tools and consumables to power future health care insights



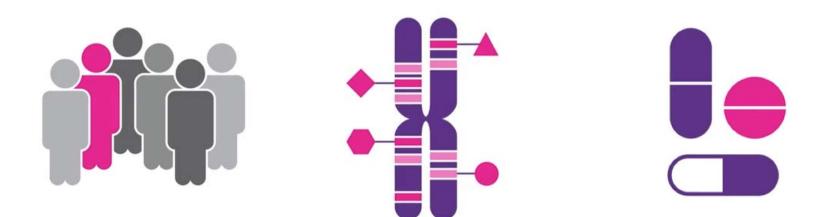
For the year ended December 31, 2018; Gross margin for the quarter ended September 30, 2019

Critical immunology insights needed across disease spectrum





Powering health care insights



Discover new insights in health and disease.

Identify meaningful biomarkers.

Accelerate development of more impactful therapies.

Why invest?







Multibillion-dollar markets

Targeting \$6 billion+ immunome market

Growing adoption across all research categories

Increasing focus for tools to study multiple disease areas

Proprietary and innovative technologies

Premier tools to analyze cells, tissues and bulk/free analytes

Meeting critical needs to study the immunome

Accelerating growth with recurring revenue

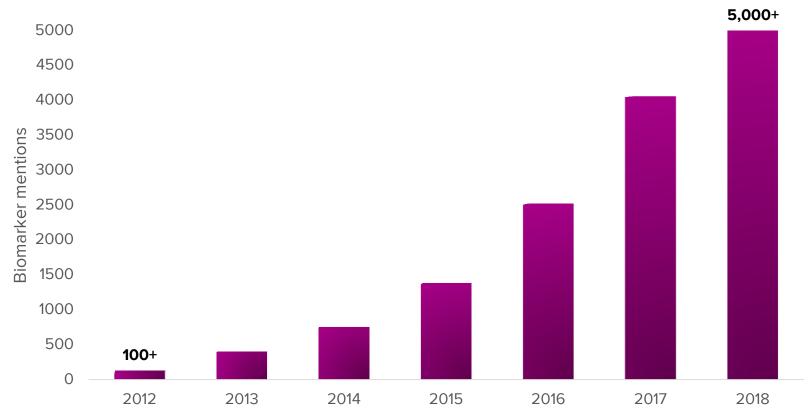
New applications driving higher recurring revenue

Executing on an innovative pipeline to drive sustainable growth

Multibillion-dollar markets

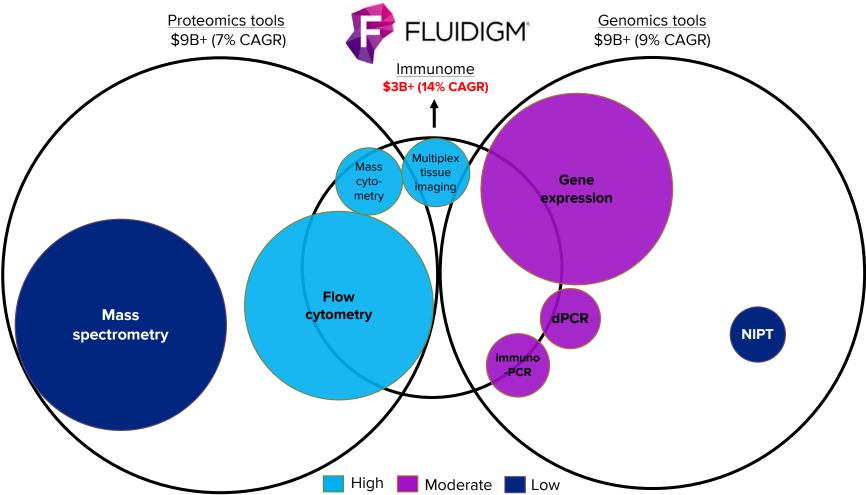
Number of immuno-oncology clinical trials studying biomarkers is growing

Cumulative number of biomarker mentions



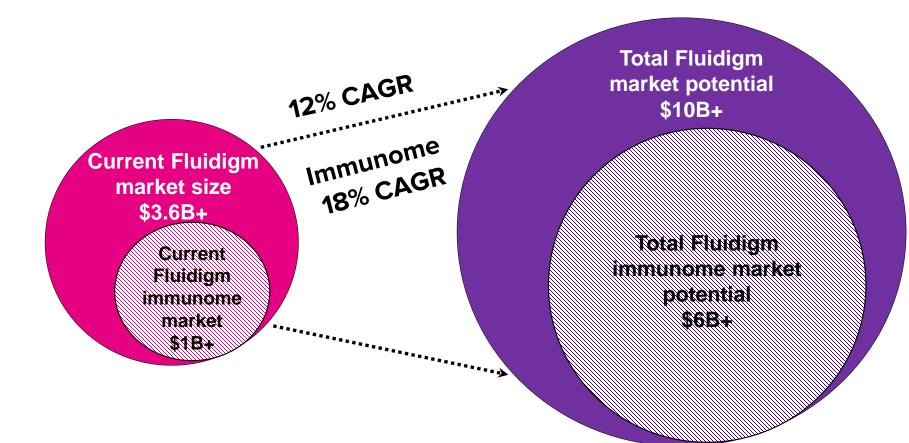
Note: Biomarker mentions taken from public clinical trials Source: 2019 DeciBio and Fluidigm analysis

Fluidigm is well-positioned in large markets



Note: Directional; not at scale and not comprehensive of all proteomics technologies Source: 2019 DeciBio and Fluidigm analysis; reflects current life science tools market

Immunome: multibillion-dollar opportunity



Unlocking meaningful new insights with multi-omic tools



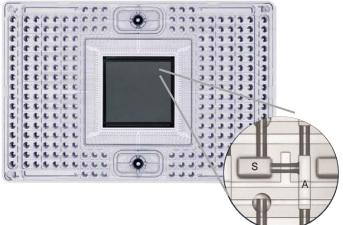
Microfluidics technology

Fluidigm is defining the immunome.

Proprietary and innovative technologies

Premier tools to address immune function

Microfluidics



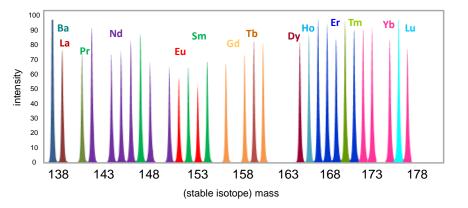
Nucleic acid, protein and microbiome analysis

Reactions are 1.000x smaller

Thousands of experiments in 1 cm²

Integration of entire workflows in a single device

CyTOF technology



Accessibility: used in blood and solid tissue microenvironment at single-cell resolution

Ease of use: resolves technical issues of existing technologies

Measures over 50 cellular parameters in a single experiment

Unparalleled capability to measure immune system response to therapeutic intervention

Empowering actionable insights



Hyperion[™] Imaging System

Deeply interrogate tumor and tissue microenvironments with 37 markers, all on a single slide.



Helios[™], a CyTOF system

Comprehensively interrogate cell phenotype and function using 40+ markers, all from a single tube.



C1[™] and Polaris[™] systems

Define unique cell populations using the widest set of single-cell workflows commercially available.



Juno[™] and Biomark[™] systems

Efficiently detect genomic and proteomic biomarkers with workflow scalability and panel flexibility.

Tissues

Cells

Bulk/free analytes

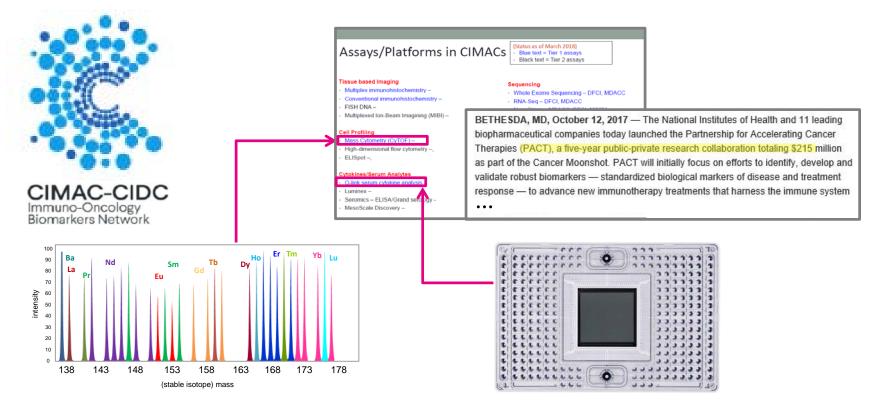
Mass cytometry in more than 50% of Comprehensive Cancer Centers



Sources: NIH and NCCN

Reflects adoption momentum of our technology

NCI and 11 biopharma companies catalyze immune profiling



Fluidigm technology powers Tier 1 assays at CIMAC-CIDC.

Source: National Cancer Institute (NCI) CIMACs: Cancer Immune Monitoring and Analysis Centers, CIDC: Cancer Immunological Data Commons

Characterizing cell therapy

9:10 Characterization of CAR Ts and Cell Therapies



Eric S. Alonzo, PhD, Scientist, Cellular Analytics, bluebird bio Clinical-grade CAR T cell drug products contain a heterogenous mixture of phenotypically and functionally distinct cells. Such heterogeneity necessitates innovative strategies to define biomarkers that may predict responses to CAR T cell therapy. We improved biomarker characterization of our CAR T cell drug products by combining high dimensional mass cytometry with global gene expression analysis. These strategies identified multiple distinct memory T cell populations that may be associated with positive outcomes in CAR T cell therapy.



Cell Rep. Author manuscript; available in PMC 2018 Jun 4. Published in final edited form as: <u>Cell Rep. 2018 May 15: 23(7): 2130–2141.</u> dol: <u>10.1016/j.celrep.2018.04.051</u> PMCID: PMC5986286 NIHMSID: NIHMS970659 PMID: 29768210

Engineered Tumor-Targeted T Cells Mediate Enhanced Anti-Tumor Efficacy Both Directly and through Activation of the Endogenous Immune System

<u>Mauro P. Avanzi, ^{1,4} Oladapo Yeku</u>, ^{1,4,5,*} <u>Xinghuo Li,³ Dinali P. Wijewarnasuriya</u>,³ <u>Dayenne G. van Leeuwen</u>, ¹ <u>Kenneth Cheung</u>,¹ <u>Hyebin Park</u>, ¹ <u>Terence J. Purdon</u>, ¹ <u>Anthony F. Daniyan</u>, ¹ <u>Matthew H. Spitzer</u>, ² and <u>Renier J. Brentjens</u>^{1,3,*}

Utilizing CyTOF analysis, we found that 19m28mz-mIL18 CAR T cells were not only capable of migration, and persistence in the bone marrow, but also induced endogenous CD8 T cells, macrophages, and DCs toward a more effective anti-tumor phenotype. Enhanced survival of mice inoculated with high

Strong adoption across new markets

Research is growing: 945+ mass cytometry publications YTD 2019: 260+ peer-reviewed publications Leading indicator of big pharma/biotech trends

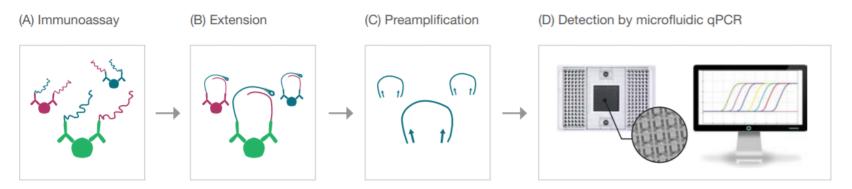
Market phase Milestone activities Key customer types		III. Application expansion • Launch standard	 Mass cytometry accepted as a core too for immune profiling 				
	II. Reduction to practice	 Penetrate and ramp use at cancer centers and 	 Inclusion in clinical trial protocols and/or criteria Broad RUO use for patient data gathering 				
I. Methods development	 Placement into flow cores and shared-use customers Publications inflect with translational research 	 translational research consortia. Increase number of consumables power users. 	Customer-developed applications				
 Publications establish disruptive tech potential. Power PI, tech pioneer 	translational research focus. Flow cores, translational PI, biopharma discovery	NCI-Designated Cancer Centers, biopharma early clinical research, translational consortia	CROs, biopharma late clinical research, customer-developed applications				

IV. Routine use

€

Providing precision medicine research insights on the proteome with microfluidics

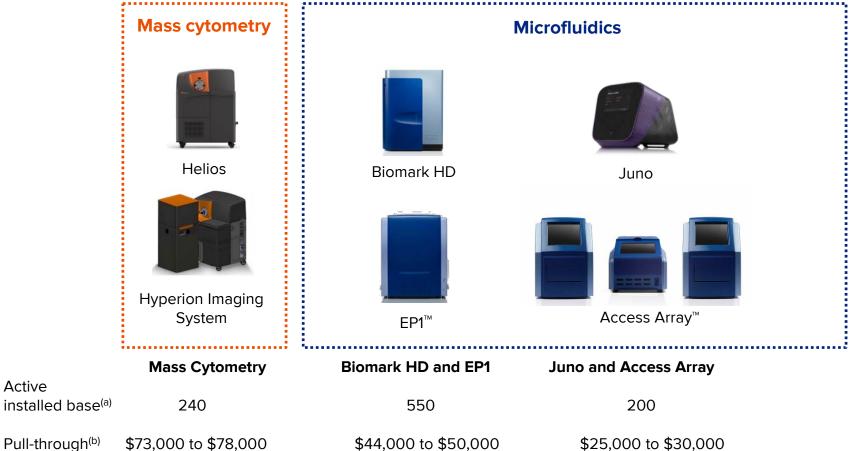
High-plex, high-throughput protein expression on a microfluidic PCR platform



- Measures expression of >90 proteins across ≥90 samples per run
- Requires only 1 microliter of blood or serum
- Innovative dual-recognition, DNA-coupled methodology provides exceptional readout specificity, enabling high-multiplex, rapid-throughput biomarker analysis without compromising data quality.
- 14 panels, offered by Olink[®] proteomics, enable screening for 1,100-plus markers across disease areas such as cardiology, cancer immunology, neurology and inflammation.

Accelerating growth with recurring revenue

Annual pull-through of active installed base

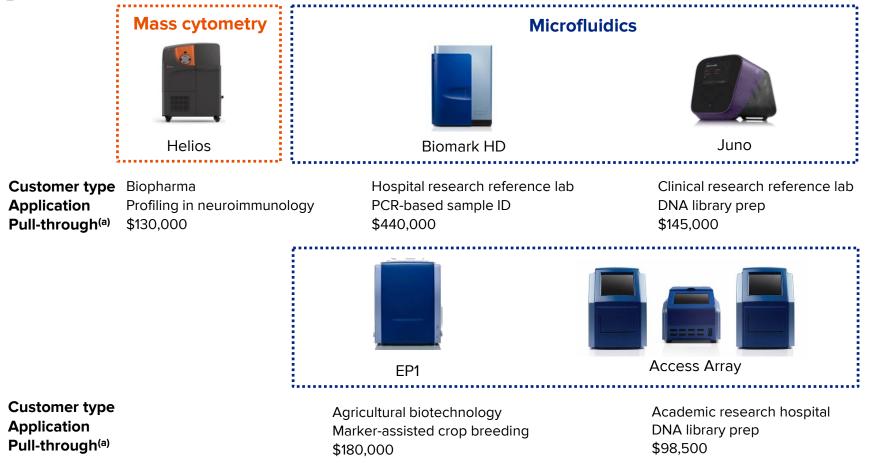


(a) Approximate active installed base as of December 31, 2018

Active

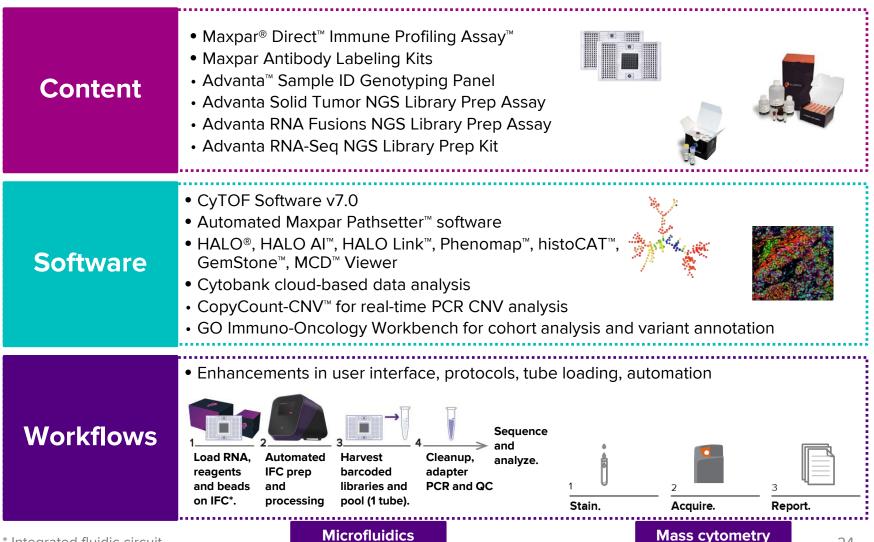
(b) Projected annualized consumables pull-through per active instrument per year for 2019

Annual high-pull-through customer profiles



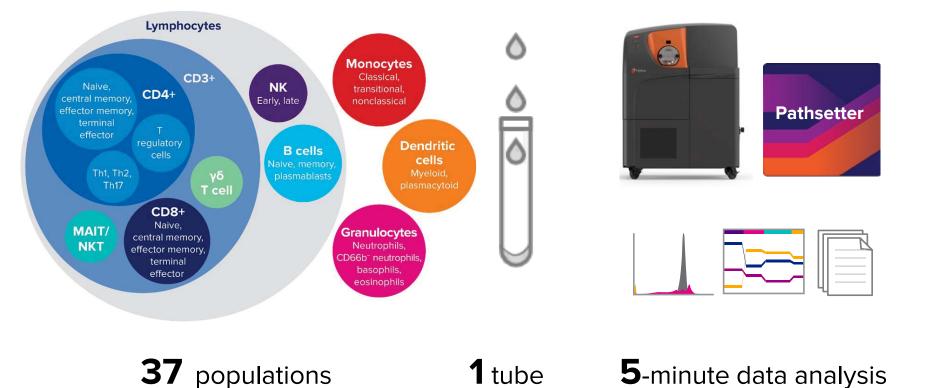
(a) Actual consumables approximate pull-through per active instrument in the last 12 months

New applications driving recurring revenue



* Integrated fluidic circuit

The new standard in immune profiling: Maxpar Direct Immune Profiling Assay



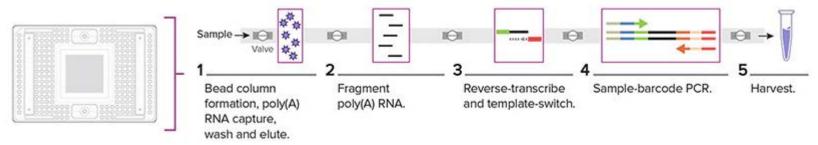
Advanta RNA-Seq NGS Library Prep Kit

Walkaway automation—Substantially reduce pipetting steps and operator interventions using an automated 48-sample workflow that includes solid-phase capture of poly(A) RNA.

Superior cost savings—Maximize customer laboratory budget by minimizing consumption of reagents and consumables through the use of microfluidic technology.

Robust chemistry—Confidently generate high-quality full-length stranded RNA-seq libraries from a variety of organisms.





The 48.Atlas[™] IFC architecture automates multiple workflow steps otherwise performed manually, including poly(A) RNA capture, RNA fragmentation, reverse-transcription, sample-barcode PCR and multiple wash steps.

Long-term recurring revenue growth



Instruments

Revenue from adoption of instruments across a broad product portfolio and variety of technology platforms



Consumables

Recurring revenue from content, software and workflows used with installed instruments

Double-digit growth



Service

Recurring revenue from active, installed instruments

Why invest?







Multibillion-dollar markets

Targeting \$6 billion+ immunome market

Growing adoption across all research categories

Increasing focus for tools to study multiple disease areas

Proprietary and innovative technologies

Premier tools to analyze cells, tissues and bulk/free analytes

Meeting critical needs to study the immunome

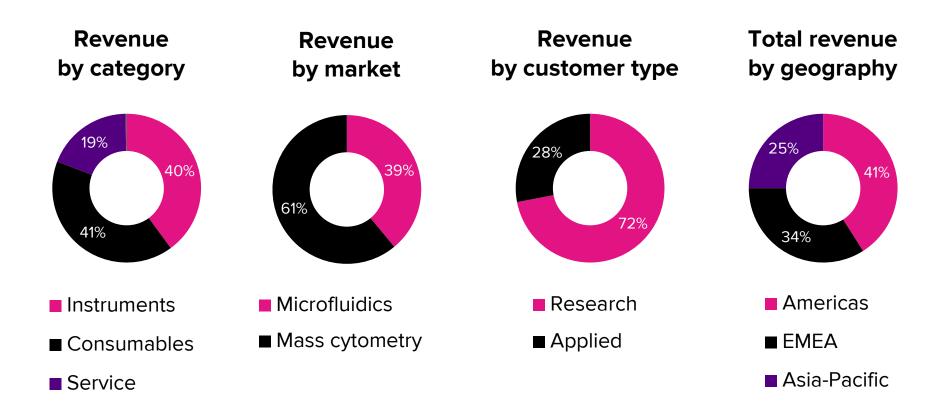
Accelerating growth with recurring revenue

New applications driving higher recurring revenue

Executing on an innovative pipeline to drive sustainable growth

Financials

YTD Q3 2019 revenue profile



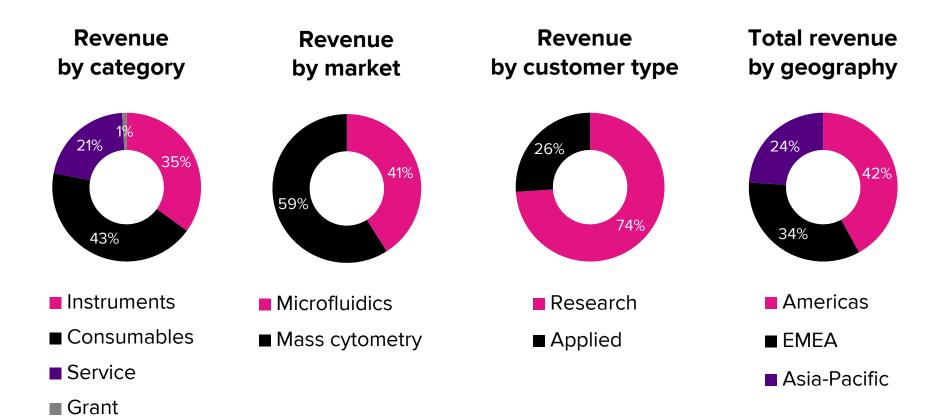
YTD Q3 selected financial information

Statement of operations data, GAAP ^(a)	YTD Q3 2019	YTD Q3 2018
Total revenue	\$84.8	\$80.6
Year-over-year growth	+5%	
Loss from operations (GAAP)	(42.7)	(37.0)
Net loss (GAAP)	(52.1)	(44.2)
Net loss per share, basic and diluted (GAAP)	(0.79)	(1.13)

Statement of operations data, Non-GAAP ^(a)	YTD Q3 2019	YTD Q3 2018
Total revenue	\$84.8	\$80.6
Loss from operations (Non-GAAP)	(22.4)	(18.5)
Net loss (Non-GAAP)	(21.5)	(18.4)
Net loss per share, basic and diluted (Non-GAAP)	(0.33)	(0.47)
Balance sheet data (in millions)	as of September 30, 20	019
Cash and cash equivalents, short-term investments and restricted cash	\$64.8	
Convertible notes, net	\$49.9	

(a) In millions, except per share amounts

Q3 2019 revenue profile



Q3 selected financial information

Statement of operations data, GAAP ^(a)	Q3 2019	Q3 2018
Total revenue	\$26.5	\$29.0
Year-over-year growth	(8.5%)	
Quarter-over-quarter growth	(6.0%)	
Loss from operations (GAAP)	(13.8)	(11.6)
Net loss (GAAP)	(12.9)	(14.8)
Net loss per share, basic and diluted (GAAP)	(0.19)	(0.38)
Statement of operations data, Non-GAAP ^(a)	Q3 2019	Q3 2018
Total revenue	\$26.5	\$29.0
Loss from operations (Non-GAAP)	(6.8)	(5.2)
Net loss (Non-GAAP)	(6.2)	(5.2)
Net loss per share, basic and diluted (Non-GAAP)	(0.09)	(0.13)
Balance sheet data (in millions)	as of September 30, 20	19
Cash and cash equivalents, short-term investments and restricted cash	\$64.8	
Convertible notes, net	\$49.9	

(a) In millions, except per share amounts

Mass cytometry business

Products

- Maxpar Human Immune Monitoring Panel Kit and reporting software
- Maxpar Direct Immune Profiling Assay with automated Maxpar Pathsetter software
- Maxpar Antibody Labeling Kits
- Maxpar Human Immuno-Oncology IMC[™] Panel Kits

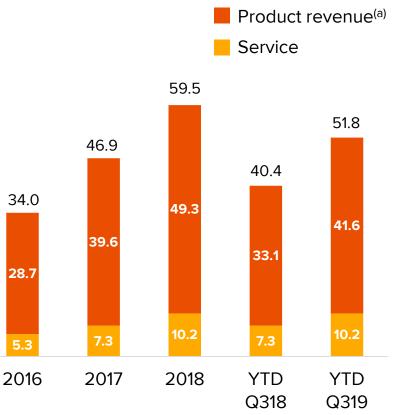
Collaborations

- Entered into distribution agreement with University of Zurich for histoCAT software
- Established Mass Cytometry Center of Excellence
- Co-marketing agreement with Visiopharm[®] to expand and simplify Imaging Mass Cytometry[™] data analysis
- Co-marketing agreement with Indica Labs to simplify Imaging Mass Cytometry data analysis

Publications

 Over 945 publications, including 43 Imaging Mass Cytometry publications

Revenue, \$M



(a) Product revenue includes revenue from instruments and consumables.

Microfluidics business

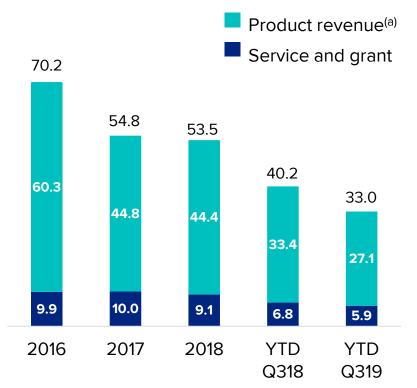
Products

- Advanta Sample ID Genotyping Panel
- Advanta Solid Tumor NGS Library Prep Assay
- Advanta RNA Fusions NGS Library Prep Assay
- Advanta RNA-Seq NGS Library Prep Kit
- C1: T-ATAC-seq application
- C1: Single-cell full-length mRNA sequencing application
- C1: REAP-seq multi-omic single-cell application

Collaborations

- Genomenon[®] agreement to co-market evidence-based genomic panel design service
- GenomOncology agreement to provide a Comprehensive Immuno-Oncology Gene Expression Workflow for Biomark HD system
- Icahn School of Medicine at Mount Sinai agreement to develop epigenetic signatures based on single-cell microfluidics. This partnership enables an acceleration in development of new applications and systems that extend beyond epigenetics.

Revenue, \$M



(a) Product revenue includes revenue from collaborations, instruments and consumables.

Revenue and gross margin

Revenue (\$M)



Gross margins (%)



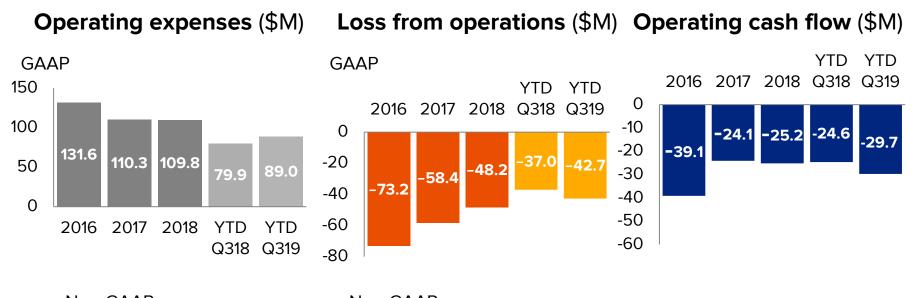


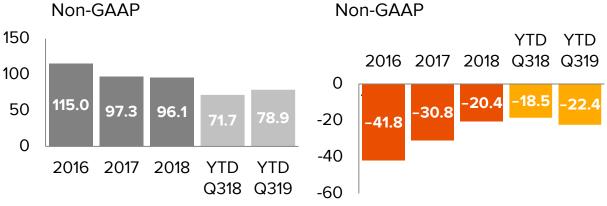
80



36

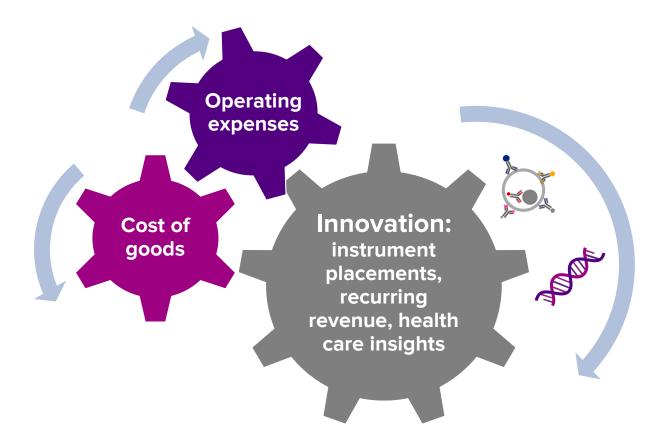
Operating expense, loss from operations and operating cash flow





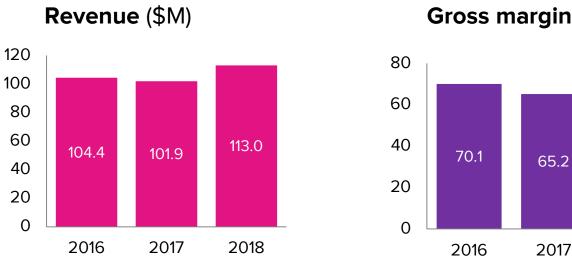
Operational efficiencies

Driving productivity



Supplemental financials

Three-year financials

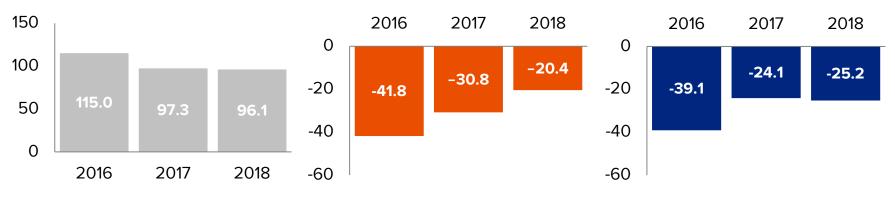


Gross margins (%)^(a)

67.0

2018

Loss from operations (\$M)^(a) Operating cash flow (\$M) **Operating expenses** (\$M)^(a)



(a) Non-GAAP

Reconciliation of GAAP to Non-GAAP 2016–2018 years gross margins

(in thousands)	Twelve Months Ended December 31,					
	2	016	2	017	2	018
Gross profit (GAAP)	\$	58,436	\$	51,983	\$	61,649
Amortization of developed technology (a)		11,200		11,200		11,200
Depreciation and amortization (b)		2,207		2,165		1,979
Stock-based compensation expense (b)		1,347		1,077		853
Gross profit (Non-GAAP)	\$	73,190	\$	66,425	\$	75,681
Gross margin percentage (GAAP)		55.9%		51.0%		54.6%
Gross margin percentage (Non-GAAP)		70.1%		65.2%		67.0%

(a) Represents amortization of developed technology in connection with the DVS acquisition (b) Represents expense associated with cost of product revenue

Reconciliation of GAAP to Non-GAAP 2016–2018 years operating expenses

	Twelve Months Ended December 31,									
(in thousands)	2	2016		2017		2018				
Operating expenses (GAAP)	\$	131,627	\$	\$ 110,342		109,813				
Stock-based compensation expense (a)		(12,511)		(8,015)		(10,170)				
Depreciation and amortization (a)		(4,051)		(4,926)		(3,393)				
Loss on disposal of property and equipment (a)		(87)		(135)		(141)				
Operating expenses (Non-GAAP)	\$	114,978	\$	97,266	\$	96,109				

(a) Represents expense associated with research and development, selling, general and administrative activities

Reconciliation of GAAP to Non-GAAP 2016–2018 years loss from operations

(in thousands)	Twelve Months Ended December 31,							
	2016 2017			2018				
Loss from operations (GAAP)	\$	(73,190)	\$	(58,360)	\$	(48,164)		
Stock-based compensation expense		13,858		9,092		11,023		
Amortization of developed technology (a)		11,200		11,200		11,200		
Depreciation and amortization (b)		6,262		7,091		5,372		
Loss on disposal of property and equipment (b)		87		135		141		
Loss from operations (Non-GAAP)	\$	(41,783)	\$	(30,842)	\$	(20,427)		

(a) Represents amortization of developed technology in connection with the DVS acquisition

(b) Represents expense associated with research and development, selling, general and administrative activities

Reconciliation of GAAP to Non-GAAP Q3 and YTD of 2019 and 2018 gross margins

(in thousands)	Three	e Months Ende	mber 30,	Nine Months Ended September 30					
		2019 2018			2019	2	2018		
Gross profit (GAAP)	\$	14,038	\$	15,822	\$	46,391	\$	42,838	
Amortization of developed technology (a)		2,800		2,800		8,400		8,400	
Depreciation and amortization (b)		418		472		1,315		1,491	
Stock-based compensation expense (b)		94		125		328		550	
Gross profit (Non-GAAP)	\$	17,350	\$	19,219	\$	56,434	\$	53,279	
Gross margin percentage (GAAP)		53.0%		54.6%		54.7%		53.1%	
Gross margin percentage (Non-GAAP)		65.5%		66.4%		66.5%		66.1%	

(a) Represents amortization of developed technology in connection with the DVS acquisition (b) Represents expense associated with cost of product revenue

Reconciliation of GAAP to Non-GAAP Q3 and YTD of 2019 and 2018 operating expenses and loss from operations

(in thousands)	Three Months Ended September 30,					Nine Months Ended September 30,				
		2019		2018		2019	2018			
Operating expenses (GAAP)	\$	27,854	\$	27,450	\$	89,049	\$	79,884		
Stock-based compensation expense (b)		(2,935)		(2,177)		(7,964)		(5,506)		
Depreciation and amortization (b)		(715)		(809)		(2,169)		(2,633)		
Loss on disposal of property and equipment (b)		(23)		-		(52)		-		
Operating expenses (Non-GAAP)	\$	24,181	\$	24,463	\$	78,864	\$	71,745		

(in thousands)	Three Months Ended September 30, Nine Mo					Months End	ed Sep	tember 30,						
	2019		2019		2019		2018		2018		2019			2018
Loss from operations (GAAP)	\$	(13,816)	\$	(11,628)	\$	(42,658)	\$	(37,046)						
Stock-based compensation expense		3,029		2,303		8,292		6,057						
Amortization of developed technology (a)		2,800		2,800		8,400		8,400						
Depreciation and amortization (b)		1,133		1,281		3,484		4,123						
Loss on disposal of property and equipment (b)		23		-		52		-						
Loss from operations (Non-GAAP)	\$	(6,831)	\$	(5,244)	\$	(22,430)	\$	(18,466)						

(a) Represents amortization of developed technology in connection with the DVS acquisition

(b) Represents expense associated with research and development, selling, general and administrative activities

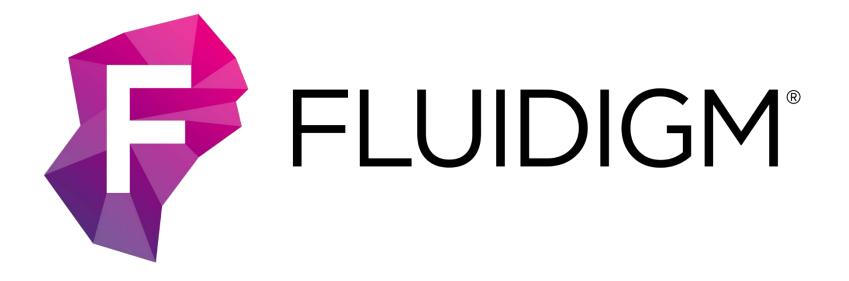
Reconciliation of GAAP to Non-GAAP Q3 and YTD of 2019 and 2018 net loss and net loss per share

(in thousands, except per share amounts)	Three Months Ended September 30,			Nine	ember 30,			
		2019	2	2018	:	2019	:	2018
Net loss (GAAP)	\$	(12,887)	\$	(14,750)	\$	(52,105)	\$	(44,238)
Stock-based compensation expense		3,029		2,303		8,292		6,057
Amortization of developed technology (a)		2,800		2,800		8,400		8,400
Depreciation and amortization		1,133		1,281		3,484		4,123
Interest expense (b)		444		4,019		3,636		9,824
Loss on disposal of property and equipment		23		-		52		-
Loss on extinguishment of debt		-		-		9,000		-
Benefit from acquisition related income taxes (c)		(742)		(898)		(2,226)		(2,525)
Net loss (Non-GAAP)	\$	(6,200)	\$	(5,245)	\$	(21,467)	\$	(18,359)
Shares used in net loss per share calculation -								
basic and diluted (GAAP and Non-GAAP)		69,469		39,235		65,792		39,033
Net loss per share - basic and diluted (GAAP)	\$	(0.19)	\$	(0.38)	\$	(0.79)	\$	(1.13)
Net loss per share - basic and diluted (Non-GAAP)	\$	(0.09)	\$	(0.13)	\$	(0.33)	\$	(0.47)

(a) Represents amortization of developed technology in connection with the DVS acquisition

(b) Represents interest expense, primarily on convertible debt

(c) Represents the tax impact on the purchase of intangible assets in connection with the DVS acquisition



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