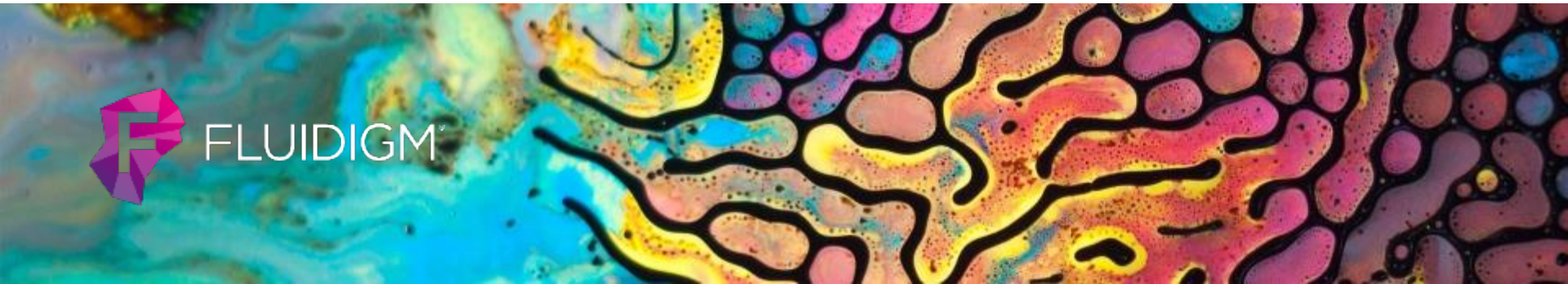
Fluidigm Corporation

Q2 2019

August 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 pull-through 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 products are for Research Use Only. Not for use in diagnostic procedures.

Use of Non-GAAP financial information

This presentation has certain financial information in accordance with U.S. GAAP and also on a Non-GAAP basis for the three-month periods ended June 30, 2019, and June 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

>500
employees worldwide

$113M
annual revenue

>2,500
scientific publications

Headquarters
South San Francisco, CA, USA

Manufacturing
Singapore • Ontario, Canada • California, USA

>700
issued or pending patents (worldwide)

54.5% • 66.4%
gross margin
GAAP • Non-GAAP

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

Critical immunology insights needed across disease spectrum

Immune response

Cancer	Chronic inflammatory conditions	Autoimmune disease	Infectious disease, trauma and other
• Leukemia • Lymphoma • Carcinoma • Sarcoma • Melanoma	• Ulcerative colitis • IBS • Alzheimer's • Coronary disease • Obesity • Asthma • Allergy	• Multiple sclerosis • Rheumatoid arthritis • Lupus • Psoriasis • Celiac disease • Crohn's • Graft vs. host disease • Sjogren's syndrome	• Vaccine response • Microbiome-related immune modulation • Post-surgical trauma • Age-related immune competence • Pregnancy and preterm birth

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

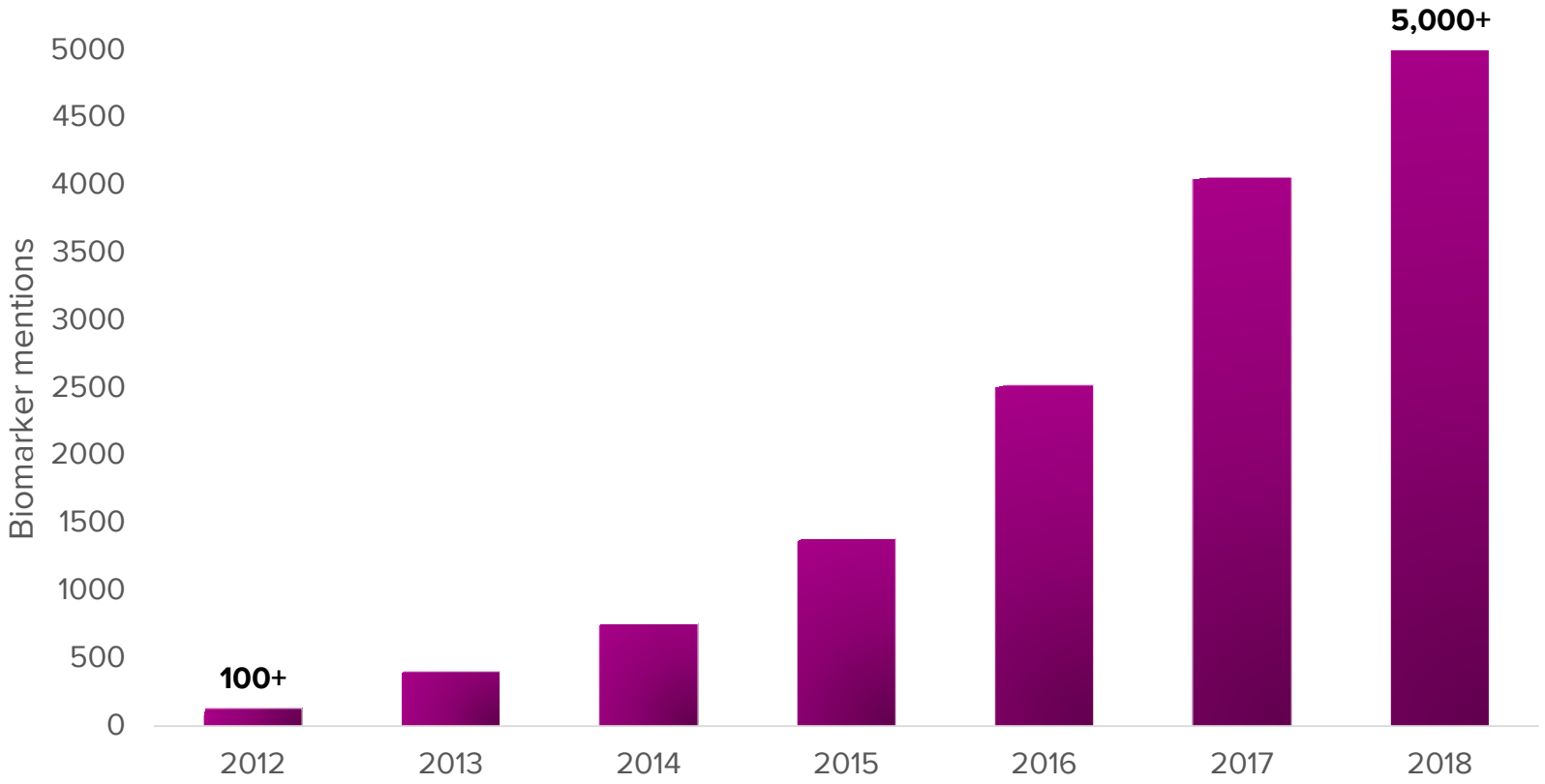
New applications driving higher recurring revenue

Executing on an innovative pipeline to drive sustainable growth

Multibillion dollar markets

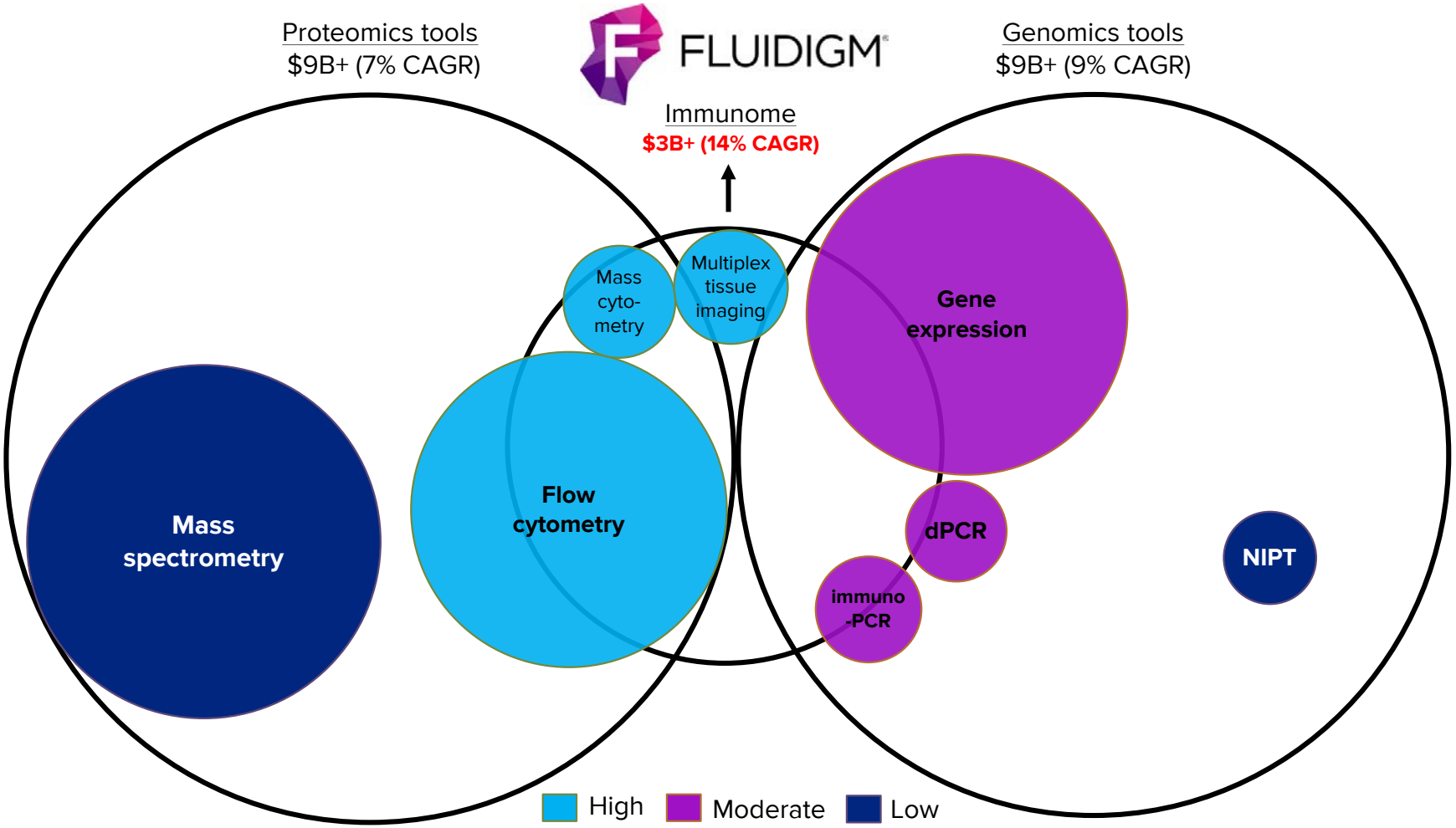
Number of immuno-oncology clinical trials studying biomarkers is growing

Cumulative number of biomarker mentions



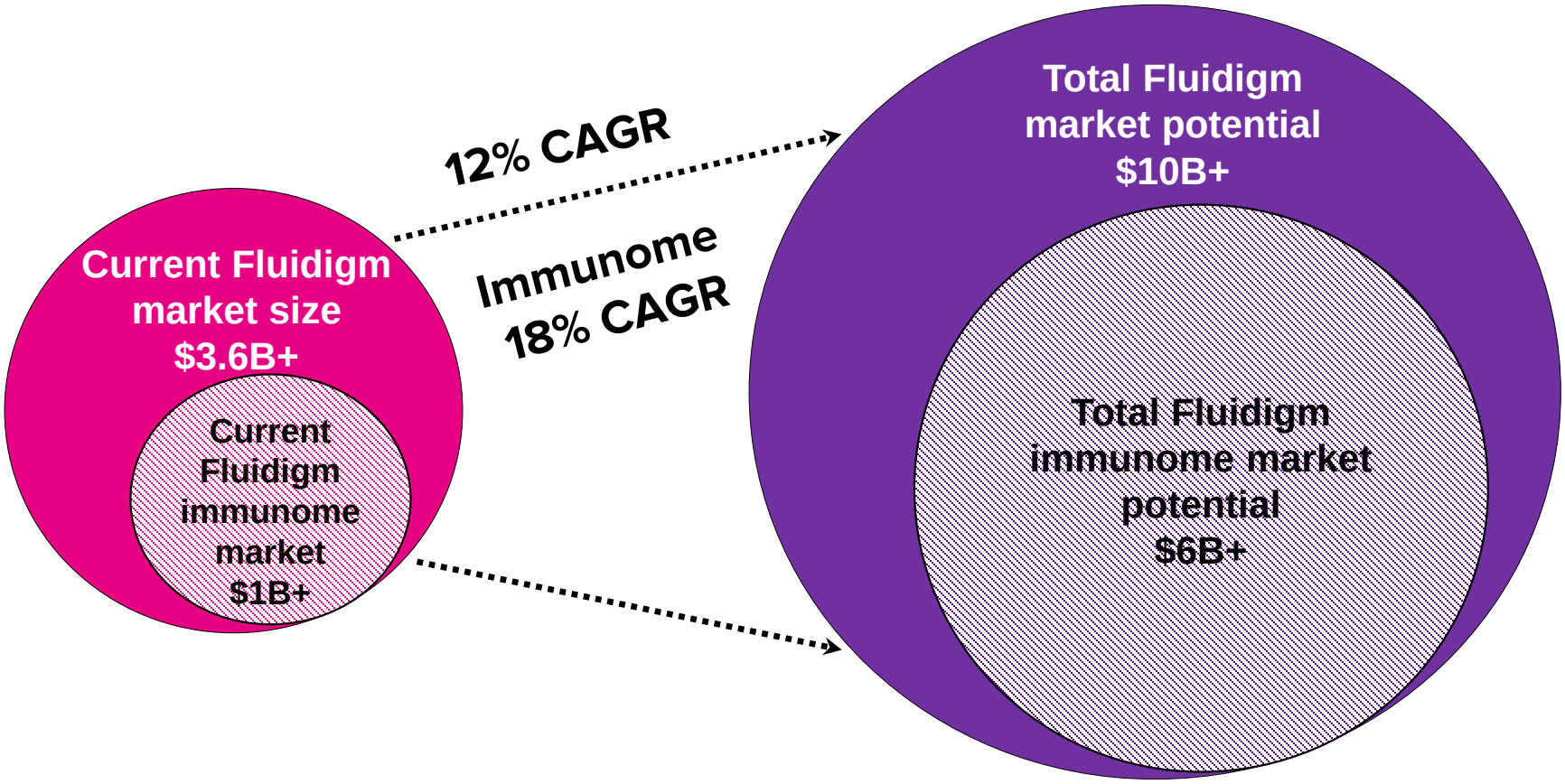
Note: Biomarker mentions taken from public clinical trials
Source: 2019 DeciBio and Fluidigm analysis

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

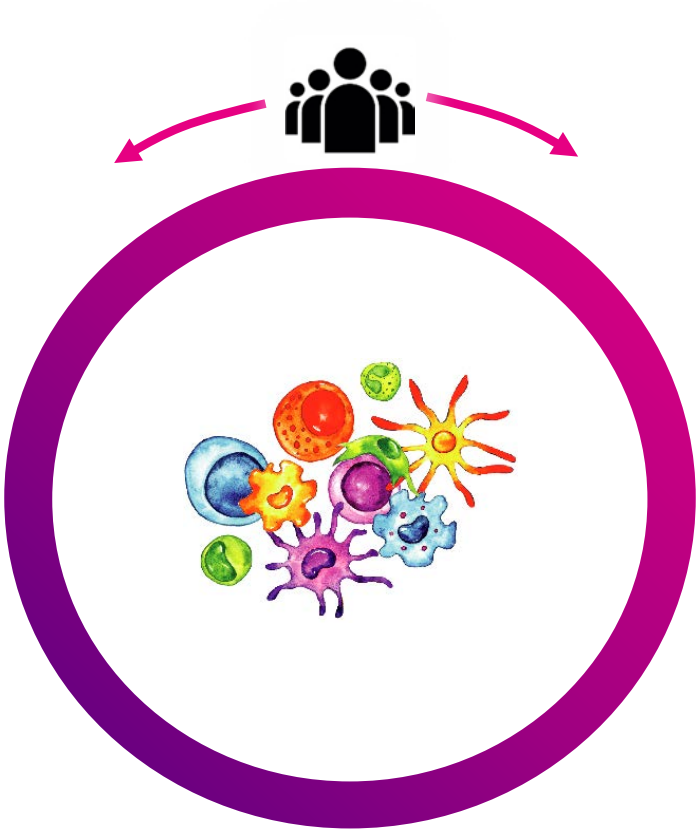
Immunome: multibillion opportunity



Note: Directional; not at scale
Source: 2019 DeciBio and Fluidigm analysis

Unlocking meaningful new insights with multi-omic tools

CyTOF® technology



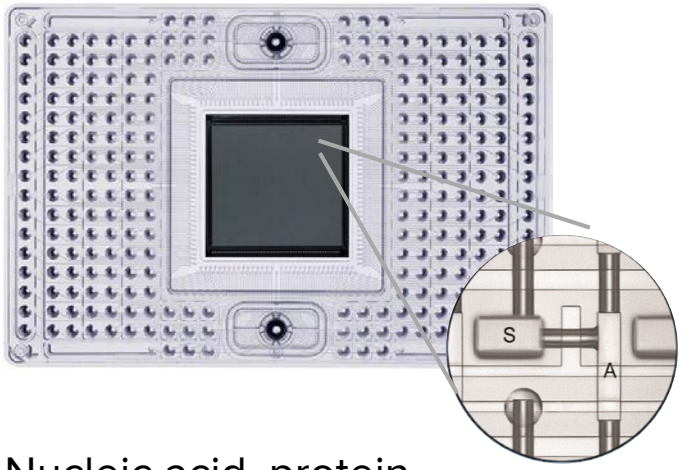
Microfluidics technology

Fluidigm is defining the immunome

Proprietary and innovative technologies

Premier tools to address immune function

Microfluidics



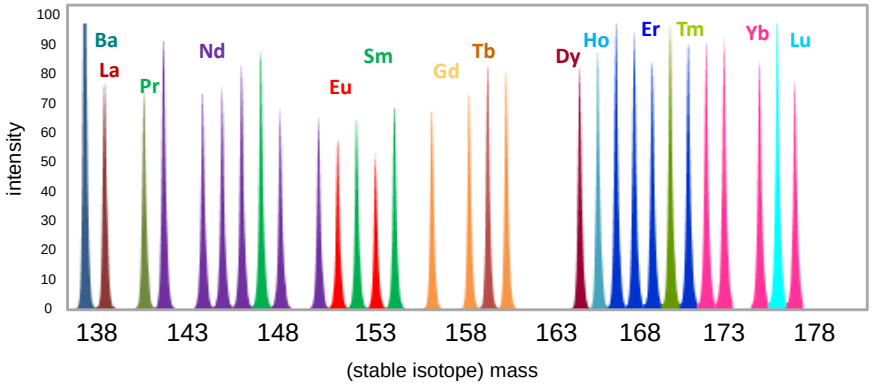
Nucleic acid, protein and microbiome analysis

Reactions are 1,000x smaller.

Thousands of experiments in 1 cm^2

Integration of entire workflows in a single device

CyTOF technology



Resolves technical issues of existing technologies

Measures over 40 cellular parameters in a single experiment—used in blood and solid tissue microenvironment at single-cell resolution

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

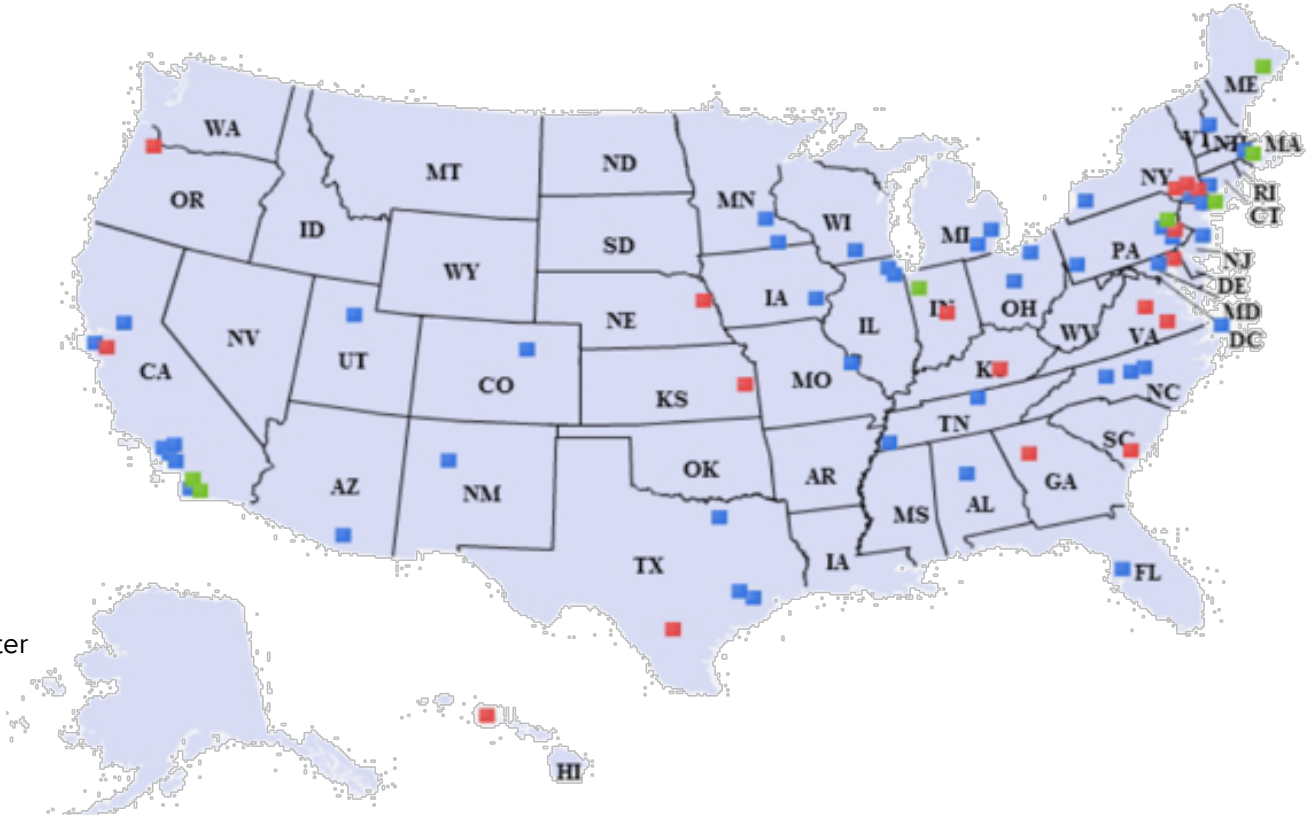
Efficiently detect genomic and proteomic biomarkers with workflow scalability and panel flexibility.

Tissues **Cells** **Bulk/free analytes**

Mass cytometry in more than 50% of Comprehensive Cancer Centers

NCCN

National Comprehensive Cancer Network®



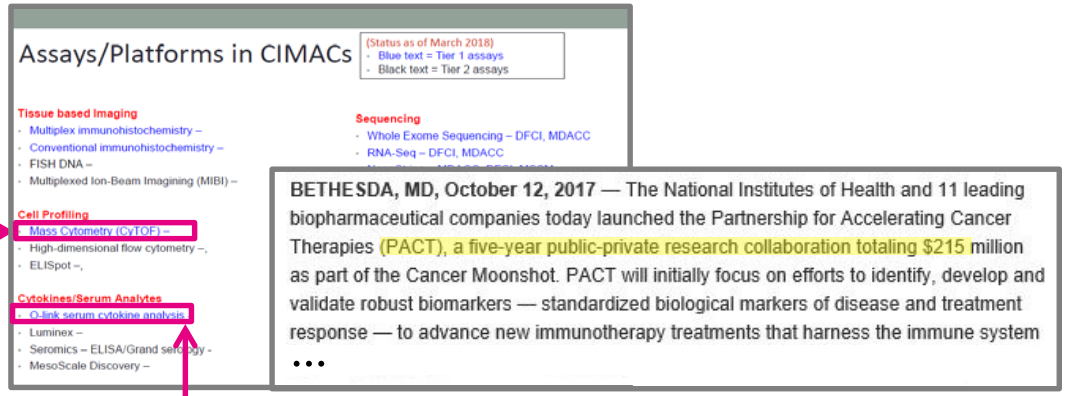
Comprehensive Cancer Center
Cancer Center
Basic laboratory

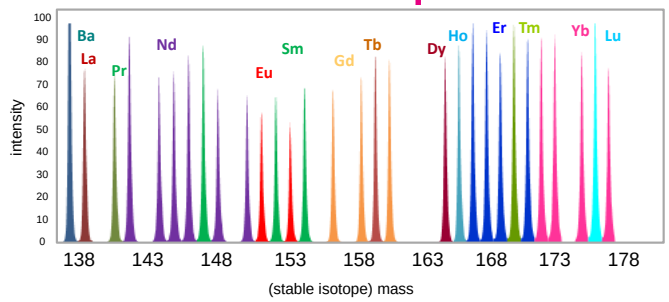
Sources: NIH and NCCN

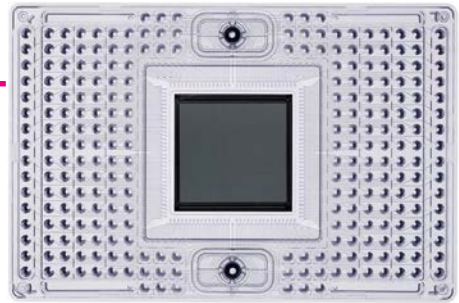
Reflects adoption momentum of our technology

NCI and 11 biopharma companies catalyze immune profiling

CIMAC-CIDC
Immuno-Oncology
Biomarkers Network







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

PEGS BOSTON
April 30-May 4, 2018

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 Reports

Cell Rep. Author manuscript; available in PMC 2018 Jun 4.
Published in final edited form as:
Cell Rep. 2018 May 15; 23(7): 2130–2141.
doi: 10.1016/j.celrep.2018.04.051

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

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

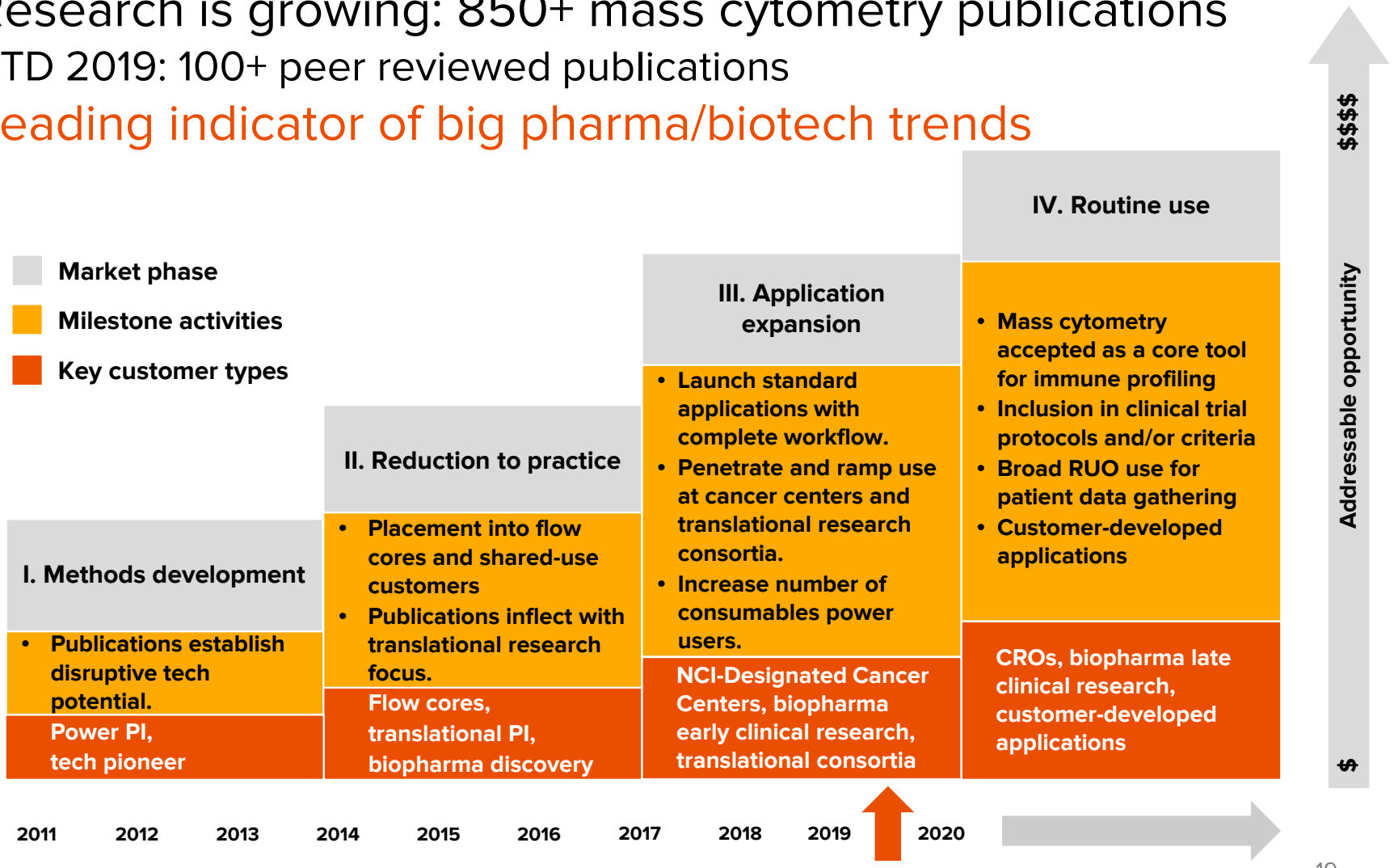
Source: *Cell Reports*

Strong adoption across new markets

Research is growing: 850+ mass cytometry publications

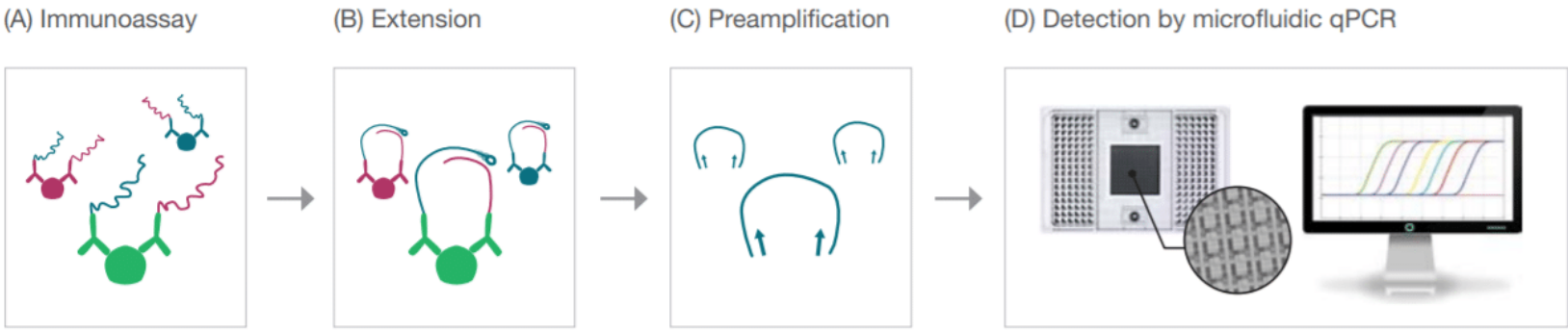
YTD 2019: 100+ peer reviewed publications

Leading indicator of big pharma/biotech trends



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

Mass cytometry

Helios

Hyperion Imaging System

Microfluidics

Biomark HD

Juno

EP1™

Access Array™

	Mass Cytometry	Biomark HD and EP1	Juno and Access Array
Active installed base[(a)]	240	550	200
Pull-through[(b)]	$73,000 to $78,000	$44,000 to $50,000	$25,000 to $30,000

(a) Approximate active installed base as of December 31, 2018
(b) Projected annualized consumables pull-through per active instrument per year for 2019

Annual high-pull-through customer profiles

Mass cytometry

Helios

Microfluidics

Biomark HD

Juno

	Helios	Biomark HD	Juno
Customer type	Biopharma	Hospital research reference lab	Clinical research reference lab
Application	Profiling in neuroimmunology	PCR-based sample ID	DNA library prep
Pull-through[(a)]	$130,000	$440,000	$145,000

EP1

Access Array

	EP1	Access Array
Customer type	Agricultural biotechnology	Academic research hospital
Application	Marker-assisted crop breeding	DNA library prep
Pull-through[(a)]	$180,000	$98,500

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

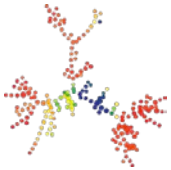
New applications driving recurring revenue

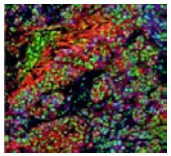
Content

- Maxpar® Direct™ Immune Profiling Assay™
- Maxpar Human Immune Monitoring Panel
- Advanta™ Sample ID Genotyping Panel
- Advanta IO Gene Expression Assay
- Advanta Solid Tumor NGS Library Prep Assay
- Advanta RNA Fusions NGS Library Prep Assay

Software

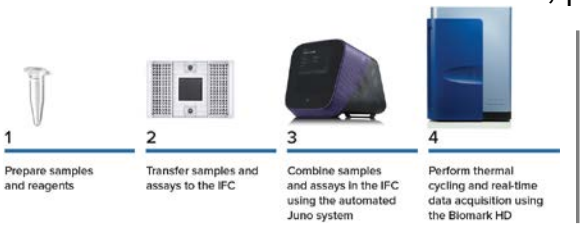
- Automated Maxpar Pathsetter™ software
- HALO®, HALO AI™, HALO Link™, Phenomap™, histoCAT™, GemStone™, MCD™ Viewer
- Cytobank cloud-based data analysis
- CopyCount-CNV™ for real-time PCR CNV analysis
- GO Immuno-Oncology Workbench for cohort analysis and variant annotation





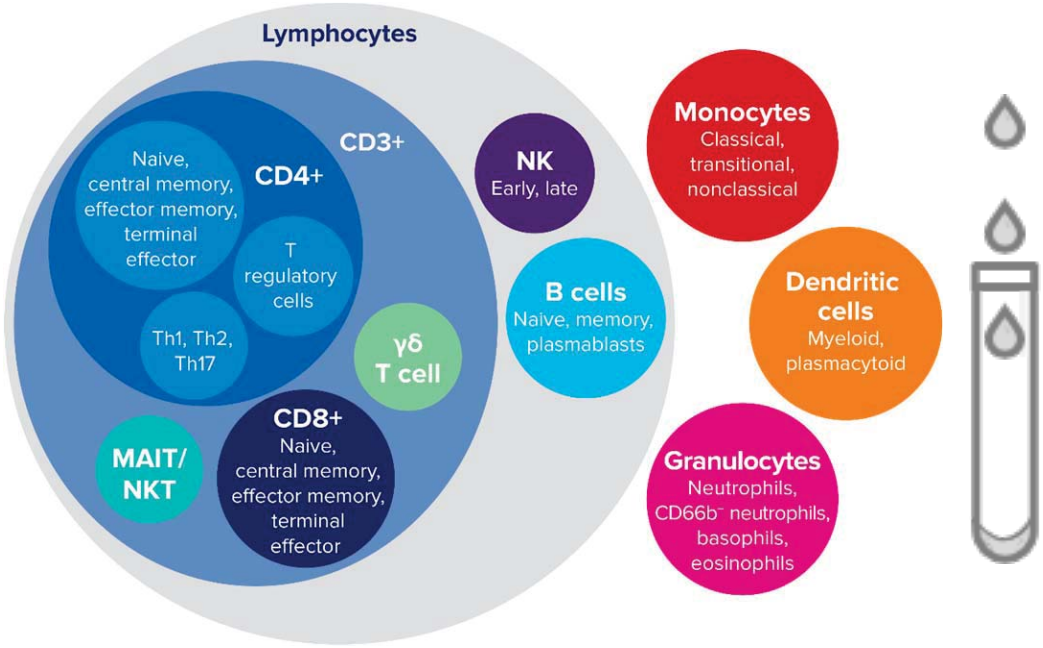
Workflows

- Enhancements in user interface, protocols, tube loading, automation



The new standard in immune profiling

Maxpar Direct Immune Profiling Assay



37 populations

1 tube

5-minute data analysis

Advanta Solid Tumor and RNA Fusions NGS Library Prep Assays

Content

Comprehensive panels of relevant SNVs, CNVs, indels and fusions from 53 high-value solid tumor genes and 380 fusion driver genes supporting the interrogation of multiple cancer types

Workflow

A streamlined and shared library prep method on Juno allows both assays to be processed simultaneously in a single run.

Flexibility

Content options facilitated by partitioned integrated fluidic circuit (IFC) architecture enable processing of up to 6 unique panels concurrently.

Efficiency

Maximize laboratory resources with walkaway automation and conserve reagents with nanoliter-scale reactions using microfluidic technology.

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

Service

Recurring revenue from active, installed instruments

Double-digit growth

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

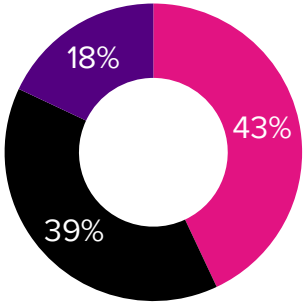
New applications driving higher recurring revenue

Executing on an innovative pipeline to drive sustainable growth

Financials

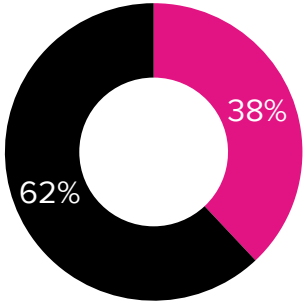
Q2 2019 revenue profile

Revenue by category



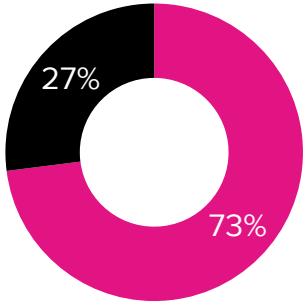
- Instruments
- Consumables
- Service

Revenue by market



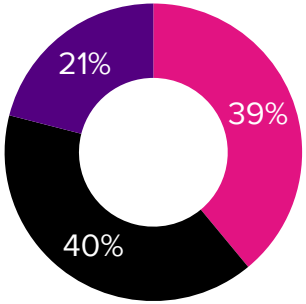
- Microfluidics
- Mass cytometry

Revenue by customer type



- Research
- Applied

Total revenue by geography

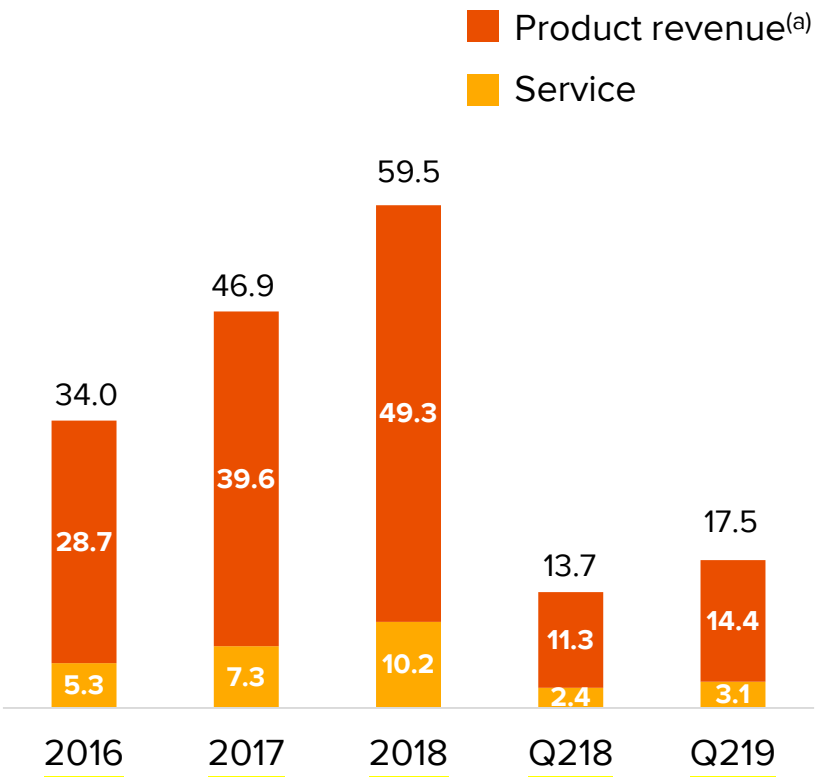


- Americas
- EMEA
- Asia-Pacific

Mass cytometry business

- **Products**
  - Maxpar Human Immune Monitoring Panel Kit and reporting software
  - Maxpar Direct Immune Profiling Assay with automated Maxpar Pathsetter software
- **Partnerships**
  - 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 850 publications; over 30 Imaging Mass Cytometry publications

Revenue, $M



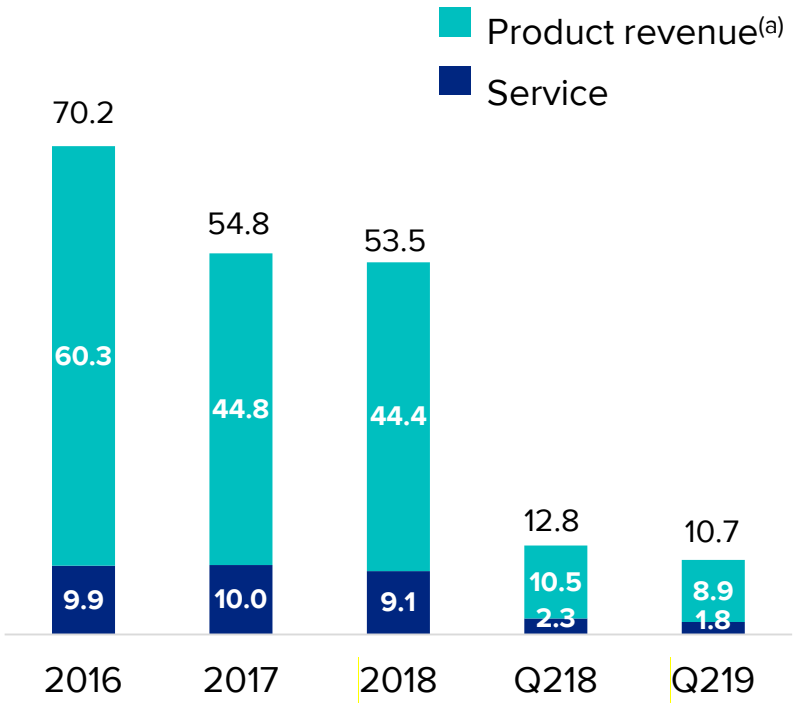
(a) Product revenue includes revenue from instruments and consumables.

Microfluidics business

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

- **Collaborations**
  - Agreement with Genomenon® to co-market evidence-based genomic panel design service
  - Agreement with GenomOncology to provide a Comprehensive Immuno-Oncology Gene Expression Workflow for Biomark HD system
  - Agreement with DNA Software to provide CopyCount-CNV software for Biomark HD system

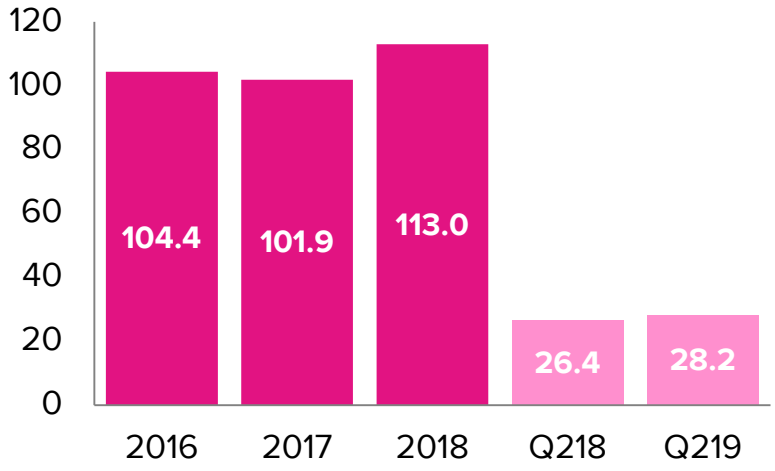
Revenue, $M



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

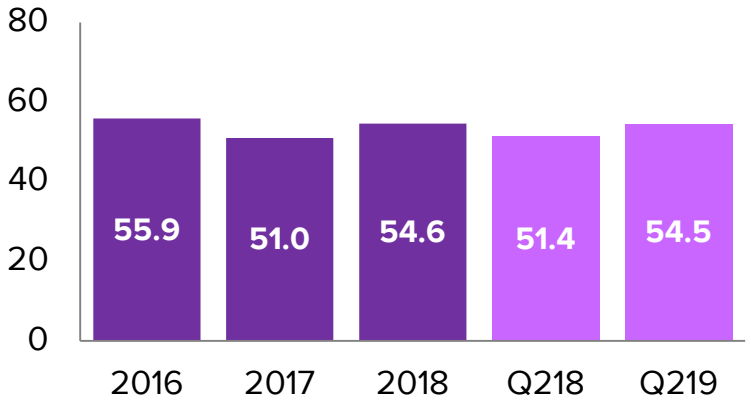
Revenue and gross margin

Revenue ($M)

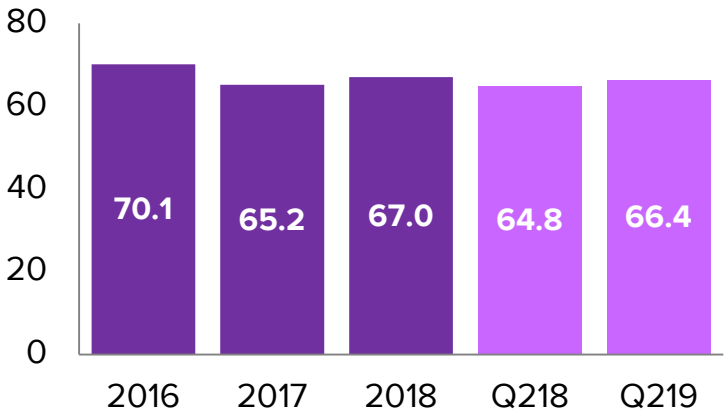


Gross margins (%)

GAAP

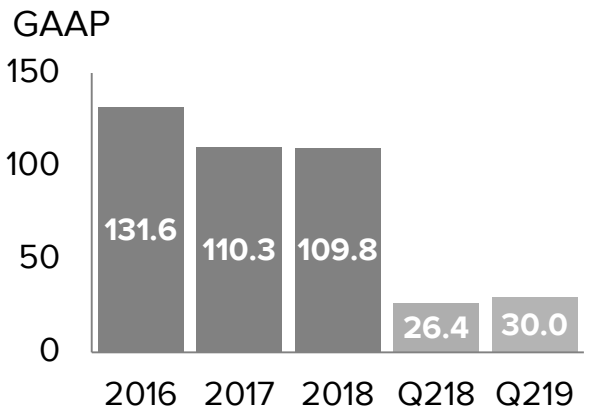


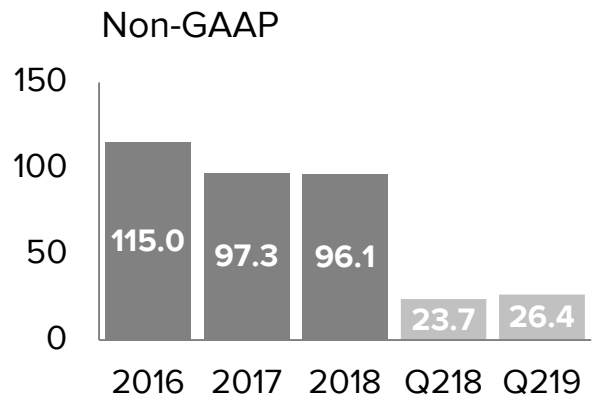
Non-GAAP



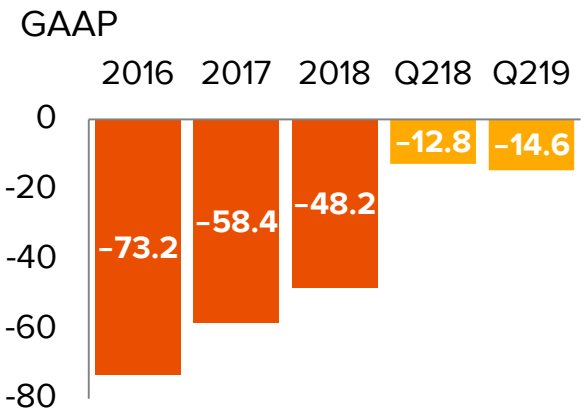
Operating expense, operating loss and operating cash flow

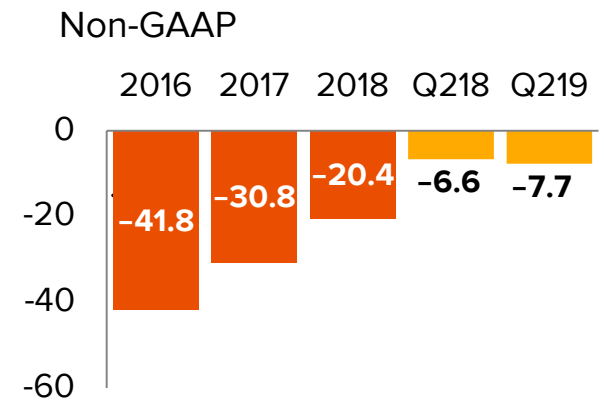
Operating expenses ($M)



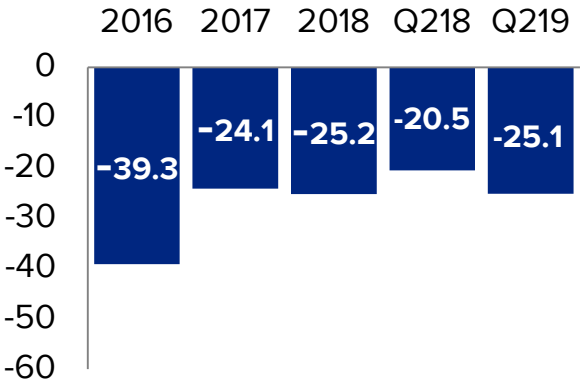


Operating loss ($M)



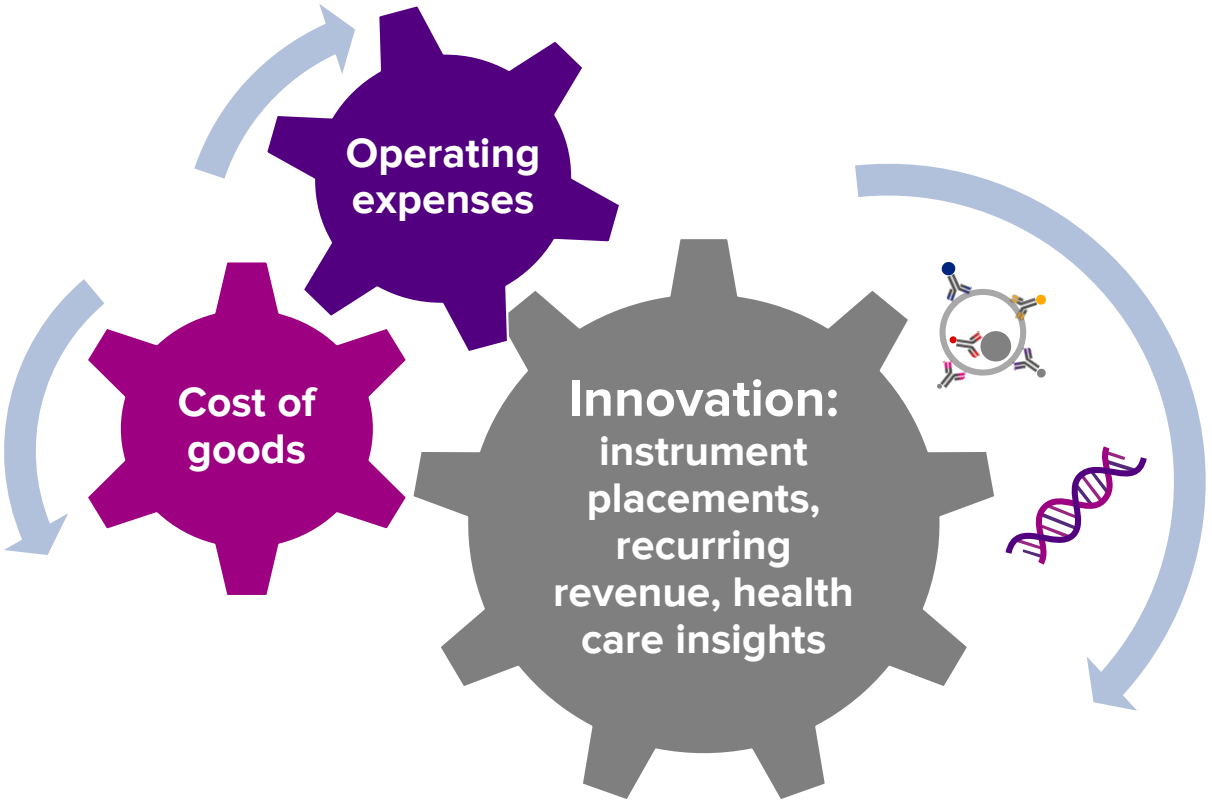


Operating cash flow ($M)



Operational efficiencies

Driving productivity



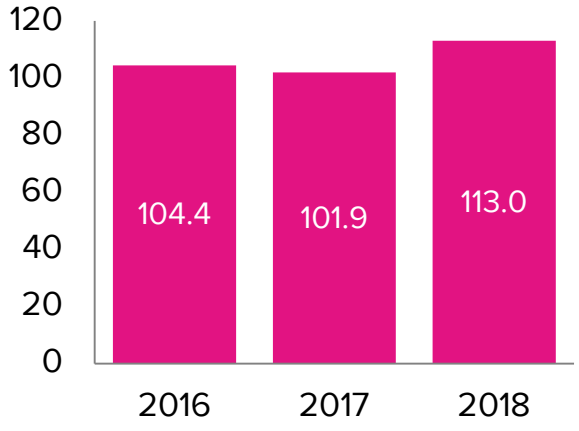
Q2 selected financial information

Statement of operations data, GAAP (in millions)	**Q2 2019**	**Q2 2018**
Total revenue	$28.2	$26.4
Year-over-year growth	*+7%*	
Quarter-over-quarter growth	*(6%)*	
Loss from operations (GAAP)	(14.6)	(12.8)
Net loss (GAAP)	(13.8)	(16.2)
Net loss per share, basic and diluted (GAAP)	(0.20)	(0.42)
Statement of operations data, Non-GAAP (in millions)	**Q2 2019**	**Q2 2018**
Total revenue	$28.2	$26.4
Loss from operations (Non-GAAP)	(7.7)	(6.6)
Net loss (Non-GAAP)	(7.1)	(6.8)
Net loss per share, basic and diluted (Non-GAAP)	(0.10)	(0.17)
Balance sheet data (in millions)	**as of June 30, 2019**	
Cash, cash equivalents and short-term investments	$68.9	
Convertible notes, net	$49.8	

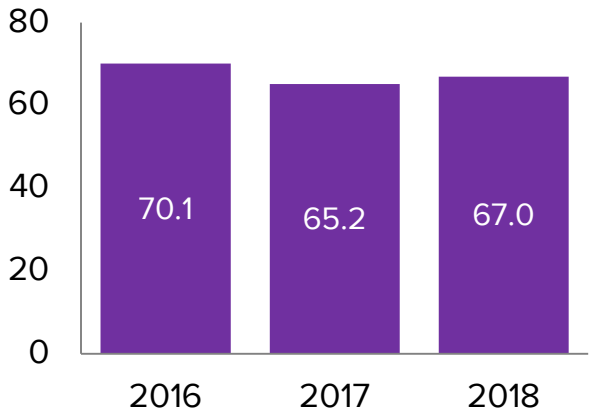
Supplemental financials

Three-year financials

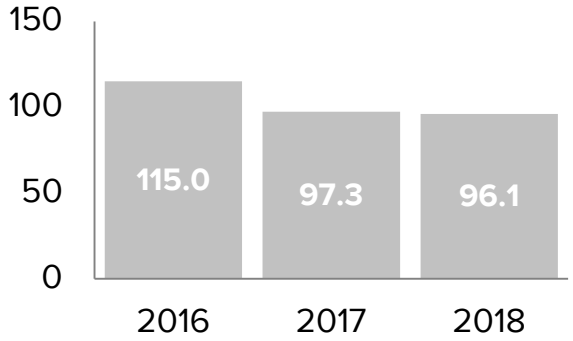
Revenue ($M)



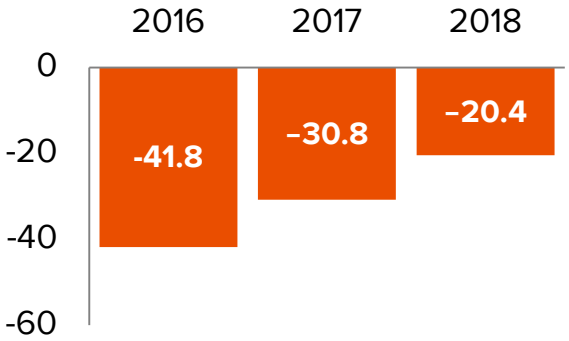
Gross margins (%)[(a)]



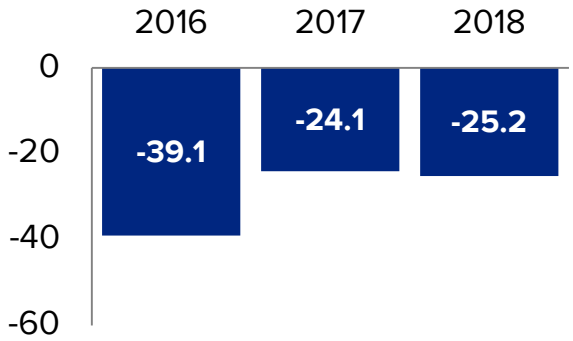
Operating expenses ($M)[(a)]



Operating loss ($M)[(a)]



Operating cash flow ($M)



(a) Non-GAAP

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

(in thousands)	Twelve Months Ended December 31,		
	2016	2017	2018
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

(in thousands)	Twelve Months Ended December 31, 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 Q2 2019 and 2018 gross margins

(in thousands)	Three Months Ended June 30,	
	2019	2018
Gross profit (GAAP)	$ 15,363	$ 13,588
Amortization of developed technology (a)	2,800	2,800
Depreciation and amortization (b)	444	509
Stock-based compensation expense (b)	108	221
Gross profit (Non-GAAP)	$ 18,715	$ 17,118
Gross margin percentage (GAAP)	54.5%	51.4%
Gross margin percentage (Non-GAAP)	66.4%	64.8%

(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 Q2 of 2019 and 2018 operating expenses and loss from operations

(in thousands)

	Three Months Ended June 30,	
	2019	2018
Operating expenses (GAAP)	$ 29,999	$ 26,373
Stock-based compensation expense (a)	(2,884)	(1,786)
Depreciation and amortization (a)	(716)	(900)
Loss on disposal of property and equipment (a)	41	-
Operating expenses (Non-GAAP)	$ 26,440	$ 23,687

(in thousands)

	Three Months Ended June 30,	
	2019	2018
Loss from operations (GAAP)	$ (14,636)	$ (12,785)
Stock-based compensation expense	2,992	2,007
Amortization of developed technology (b)	2,800	2,800
Depreciation and amortization (a)	1,160	1,409
Loss on disposal of property and equipment (a)	(41)	-
Loss from operations (Non-GAAP)	$ (7,725)	$ (6,569)

(a) Represents expense associated with research and development, selling, general and administrative activities
(b) Represents amortization of developed technology in connection with the DVS acquisition

Reconciliation of GAAP to Non-GAAP Q2 2019 and 2018 net loss and net loss per share

(in thousands, except per share amounts)	Three Months Ended June 30,	
	2019	**2018**
Net loss (GAAP)	$ (13,753)	$ (16,241)
Stock-based compensation expense	2,992	2,007
Amortization of developed technology (a)	2,800	2,800
Depreciation and amortization	1,160	1,409
Interest expense (b)	491	3,916
Benefit from acquisition related income taxes (c)	(742)	(711)
Loss on disposal of property and equipment	(41)	-
Net loss (Non-GAAP)	$ (7,093)	$ (6,820)
Shares used in net loss per share calculation—basic and diluted (GAAP and Non-GAAP)	69,158	39,003
Net loss per share—basic and diluted (GAAP)	$ (0.20)	$ (0.42)
Net loss per share—basic and diluted (Non-GAAP)	$ (0.10)	$ (0.17)

(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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