FLUIDIGM®

2021 Virtual Investor Day

Mass Cytometry and Tissue Imaging Business

May 24, 2021

Legal Information

Forward-looking statements

This presentation and the accompanying oral presentation contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others, statements regarding revenue growth and profitability targets; consumables and services recurring revenue growth expectations; market opportunities; expense management; productivity and efficiency goals; product innovation; Fluidigm's access to diagnostics markets with its microfluidics products and anticipated market sizes; adoption of Fluidigm's microfluidics products for diagnostics applications; plans to build diagnostics networks for the Advanta™ Dx SARS-CoV-2 RT PCR Assay; market growth for high-parameter and imaging cytometry products; expectations for increasing adoption of mass cytometry technologies in new markets; market trends and Fluidigm's ability to introduce products, grow revenues, and access markets based on such trends; anticipated collaborations and partnerships and benefits of those arrangements; the adoption of Fluidigm's technology and products for translational and clinical research; strategic plans to access new markets and channels; anticipated new product introductions; and revenue and net loss guidance for future periods. 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 risks relating to the potential adverse effects of the coronavirus pandemic on our business and operating results; declines in revenue from COVID-19 testing; the possible loss of key employees, customers, or suppliers; uncertainties in contractual relationships; customers and prospective customers continuing to curtail or suspend activities utilizing our products; our ability and/or the ability of the research institutions utilizing our products and technology to obtain and maintain Emergency Use Authorization from the FDA and any other requisite authorizations or approvals to use our products and technology for diagnostic testing purposes; potential changes in priorities or requirements for Emergency Use Authorizations or other regulatory authorizations or approvals; potential limitations of any Emergency Use Authorization or other regulatory authorizations or approvals; potential changes in the priorities of government agencies; challenges inherent in developing, manufacturing, launching, marketing, and selling new products; reliance on sales of capital equipment for a significant proportion of revenues in each quarter; seasonal variations in customer operations; unanticipated increases in costs or expenses; uncertainties in contractual relationships; reductions in research and development spending or changes in budget priorities by customers; Fluidigm research and development and distribution plans and capabilities; interruptions or delays in the supply of components or materials for, or manufacturing of, Fluidigm products; potential product performance and quality issues; risks associated with international operations; intellectual property risks; and competition. Information on these and additional risks and uncertainties and other information affecting Fluidigm's business and operating results is contained in its Annual Report on Form 10-K for the year ended December 31, 2020, 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.

Trademarks

The Advanta™ Dx SARS-CoV-2 RT-PCR Assay is for *In Vitro* Diagnostic Use. It is for Use under Emergency Use Authorization Only. Rx Only. Other Fluidigm products are provided for Research Use Only. Not for use in diagnostic procedures.

Agenda

1	**Introduction**	Chris Linthwaite, President and CEO
2	**Mass Cytometry Business**	Steve Kulisch, Senior Vice President, General Manager and Head of Strategic Marketing
3	**Customer Speakers**	Nasry Yassa, PhD, CEO of Sirona Dx Andrew Brown, PhD, Chief Commercial Officer of Sirona Dx Bernd Bodenmiller, PhD, Professor and Founder of Bodenmiller Lab
4	**Q&A**	Fluidigm and Customer Speakers

Fluidigm Speaker Bios

Chris Linthwaite
President and CEO

Chris Linthwaite has been Chief Executive Officer of Fluidigm since October 2016.

Linthwaite has significant leadership experience across a broad range of life science businesses, including genomics tools, bioprocessing, forensics, ag-bio and animal health testing. Prior to joining Fluidigm, Linthwaite served as President of the Genetic Sciences Division at Life Technologies, which was acquired by Thermo Fisher Scientific in 2014. Linthwaite has extensive experience building successful franchises in both life science research markets and a range of regulated environments. He has spearheaded numerous acquisitions and transformed business performance to drive growth. Earlier in his career, he was in management consulting at two firms that are now part of PwC, and he co-founded a biomedical organization focused on early-stage technology commercialization. He served on the board of directors of pediatric genetic testing company Claritas Genomics.

As an armor officer in the American military, Linthwaite was stationed in Europe and served with distinction as part of the NATO-led Implementation Force conducting peacekeeping operations in Bosnia and Herzegovina.

He earned an MBA from the Darden School of Business at the University of Virginia as well as a BA in foreign affairs from UVA. Linthwaite served as a White House intern in the Office of Public Liaison and competed at the varsity level with the UVA wrestling team.

Fluidigm Speaker Bios

Steve Kulisch
Senior Vice President, General Manager and Head of Strategic Marketing

Steve Kulisch has been responsible for Fluidigm's portfolio management as General Manager since 2019 and is a member of the executive team responsible for the company's COVID-19 response planning and strategy. As part of the Fluidigm response, early engagement and partnership with public institutes led to the rapid development of a high-throughput SARS-CoV-2 molecular test early in the pandemic. Shortly after, Fluidigm was selected as one of the first seven companies to advance in the National Institutes of Health's Rapid Acceleration of Diagnostics (RADx) program to scale testing access with a $37M investment on its novel microfluidics platform. Subsequent partnership with Washington University's McDonnell Genome Institute resulted in the first FDA authorized SARS-CoV-2 test using saliva, simplifying sample collection and reducing assay costs. Under Steve's leadership, the company has developed programs to expand access to academic institutes (Campus Safeguard) and community programs (Community Connect) to expand access to more sensitive SARS-CoV-2 molecular tests. Prior to joining Fluidigm, Steve held key management positions within the life science tools and diagnostics industry with Becton Dickinson and Bio-Rad Laboratories.

He holds a BS in Applied Microbiology from the University of California, Davis.

Customer Speaker Bios

Nasry Yassa, PhD
CEO of Sirona Dx

Nasry Yassa is an entrepreneurial executive with over 35 years of experience in clinical laboratories, contract research organizations, diagnostics and pharmaceutical industries. Yassa co-founded Sirona Dx Inc., a contract research organization that offers specialized high-complexity genomic services for platform technology firms and pharmaceutical companies.

Nasry spent the last 12 years of his career growing startup companies. At MolecularMD he was solely responsible for managing activities to commercialize the company's service portfolio. He directed staff of 60-plus with scope breadth including infrastructure build, operation, business strategy and PMA submission. Prior to MolecularMD, he co-founded Pathway Diagnostics and served as the Vice President of Operations, managing a multidisciplinary organization working to identify, develop and in-license novel technology in a wide range of disease areas. At Specialty Lab, he was the Technical Director of the Development Department, directing the development of over 500 diagnostic in-house tests. At Hoffmann-La Roche, Nasry worked as a Research Scientist and then as a Product Support Manager working on the development of the first HIV molecular diagnostic test and methods for reversible modification of thermo-stable enzymes (AmpliTaq Gold®). Prior to working at Hoffmann-La Roche, he worked at Bio-Rad Laboratories as a Senior Production Manager of the HIV-1 P3 facility. At Ortho Diagnostic Systems, Nasry worked as an Associate Scientist. Nasry started his career at Nichols Institute as a Manufacturing Chemist.

Nasry Yassa holds a BS in Medical Microbiology and PhD in Biochemistry.

Customer Speaker Bios

Andrew Brown, PhD
Chief Commercial Officer,
Sirona Dx

Andrew Brown has over 20 years of sales and business development experience in the life science tools industry, focused primarily on pharma/biotech and clinical lab market segments.
Before joining Sirona Dx, Andrew managed the proteomics business at Fluidigm, leading adoption of Mass Cytometry and Imaging Mass Cytometry™ systems.

At Life Technologies Andrew executed a clinical market development strategy for next-generation DNA sequencing with the Ion Torrent™ NGS platform. As National Commercial Development Manager at Stratagene, Andrew developed the North American pharma/biotech market with a focus on real-time qPCR systems and applications.

Andrew has a PhD from the University of London/Imperial Cancer Research Fund, an MSc in Marine and Fisheries Science from the University of Aberdeen and a BSc in Microbiology from the University of London.

Customer Speaker Bios

Bernd Bodenmiller, PhD

Professor and Founder of Bodenmiller Lab

Bernd Bodenmiller is a Professor for quantitative biomedicine who develops novel experimental and computational approaches for the analysis of tumor ecosystems. Bernd received his PhD from ETH Zurich in 2008 and conducted his postdoctoral studies at Stanford University. In 2012 he started his own research group at the University of Zurich. In 2019 he became founding director of the Department of Quantitative Biomedicine at UZH, and in 2020 Dual Professor with ETH Zurich and also Director for Technology of the Comprehensive Cancer Center Zurich.

Bernd's interest is to understand the workings of tumor ecosystems for the benefit of patients. To achieve this, he pioneered and has led the development of Imaging Mass Cytometry and is considered a world-leading expert developer of this technology. Its application by his group to cancer lead to seminal studies published in journals such as *Nature* and *Cell. M*ost recently, he made tremendous progress in using single-cell proteomics for the benefit of patients. Despite his young age, Bernd is among the world's most frequently cited researchers (web of science), was named one of the top 10 innovators in analytical sciences (The Analytical Scientist Power List 2017) and as received highly prestigious awards, as well as being a recipient of the most prestigious and competitive funding, such as European Research Council (ERC) grants.

Introduction

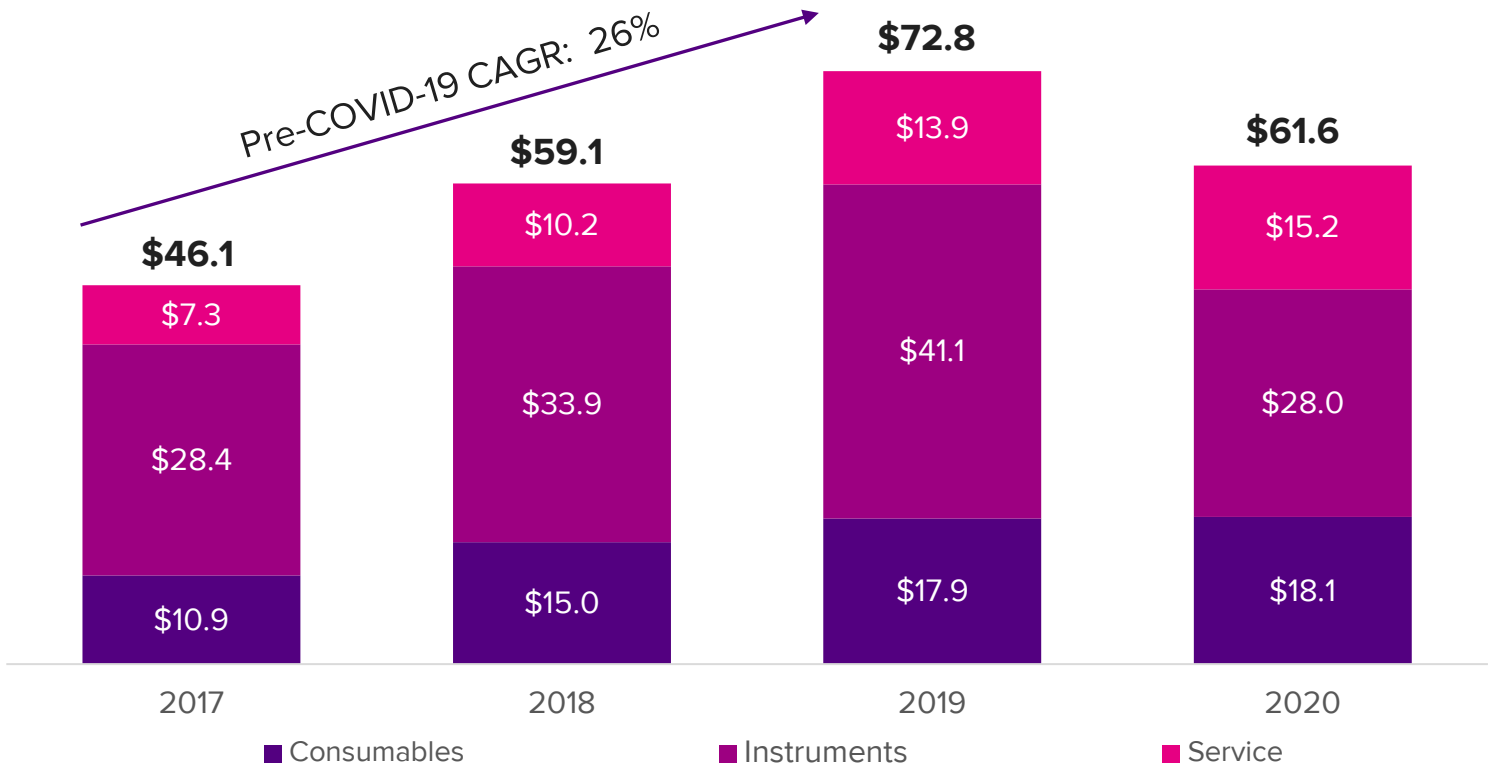
Significantly underpenetrated market segments

More comprehensive, superior capabilities

New partnerships and beachheads accelerating innovation to drive revenue growth

Return to Historical Growth

Financials



Strategies and Tactics

- Increase cadence of platform launches and workflow improvements.
- Drive adoption in high-growth translational and clinical research.
- Accelerate consumables and assay development through increased organic investment and partnership.
- Drive digital engagement and channel expansion.

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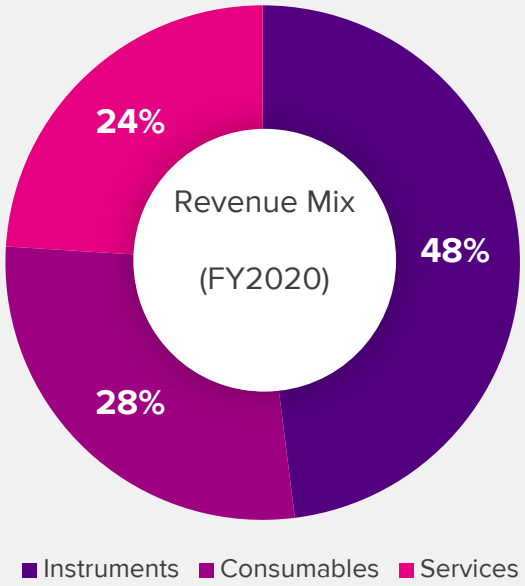
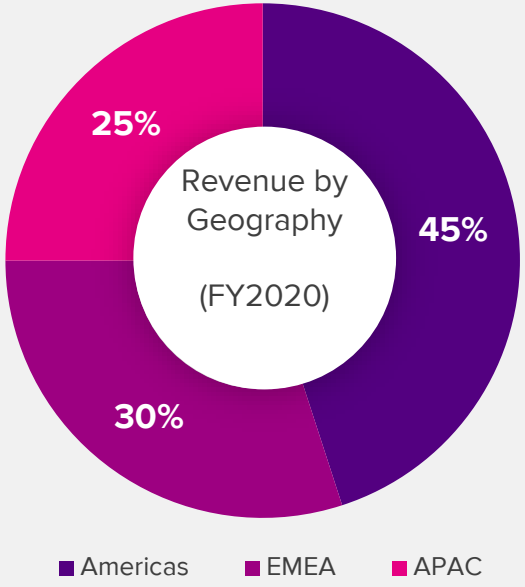
Business Overview

Financials

- **Staffing: ~200 FTE**
- **Installations**
  - 330 installations, 113 enabled for imaging
  - ~85% academia/government, 12% Pharma, 3% contract research organization (CRO)
- **Annual Historical Pull-Through (last 8Qs annualized)**
  - Cytometry: $57K–$80K
  - Tissue Imaging: $20K–$30K
- **Target Pull-Through by 2025**
  - Cytometry: $100K
    - CyTOF® XT target $135K
  - Tissue Imaging: $50K
- **Publications (>1,500)**
  - 71% clinical and translational research





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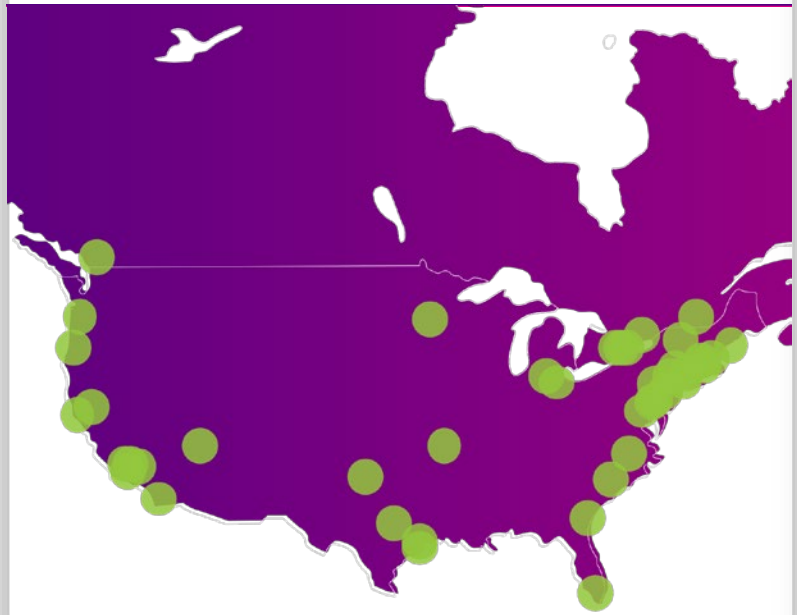
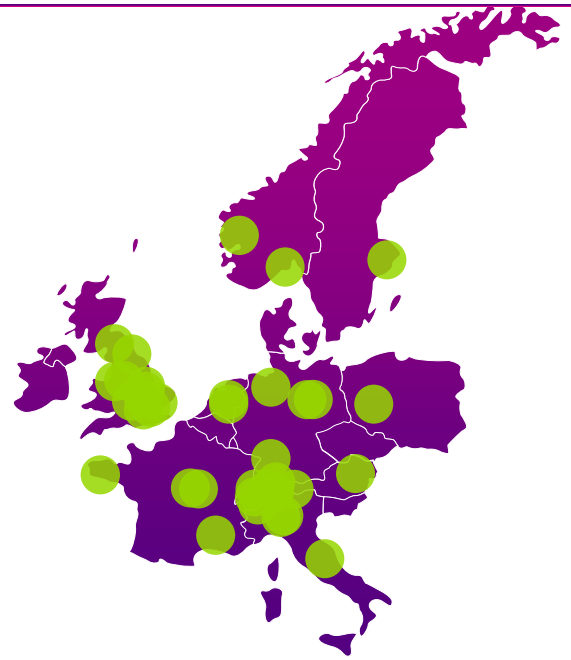
Global Presence

Presence in 9 of Top 10 Pharma (WW) and 61% of Comprehensive Cancer Centers (US)

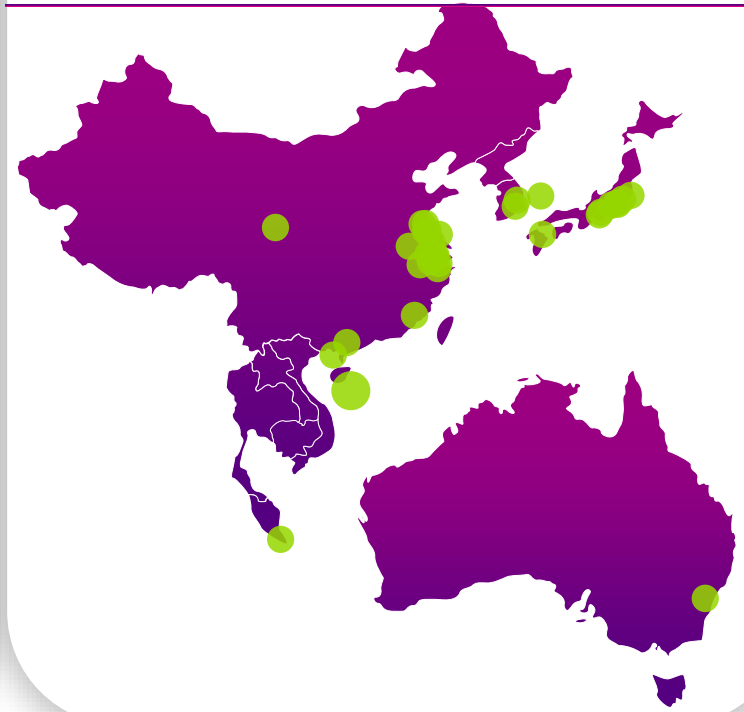
US and Canada



Europe



Asia-Pacific



Vision for the Future

Fluidigm will be the leading provider of high-parameter cytometry and tissue imaging platforms for translational and clinical research, enabling precision medicine.

Meeting the Needs of Target Markets

Translational and Clinical Research

Translational

- ***Segment/Customer Need:*** High-multiplexing, working with limited blood/tissue samples and inclusion of spatial information
- ***Fluidigm Solution:*** Mass Cytometry and Tissue Imaging for Fluidigm's customers has shown it provides the highest plexity for protein targets and is identifying new biomarkers associated with alternate disease prognoses and therapy guidance.

Clinical

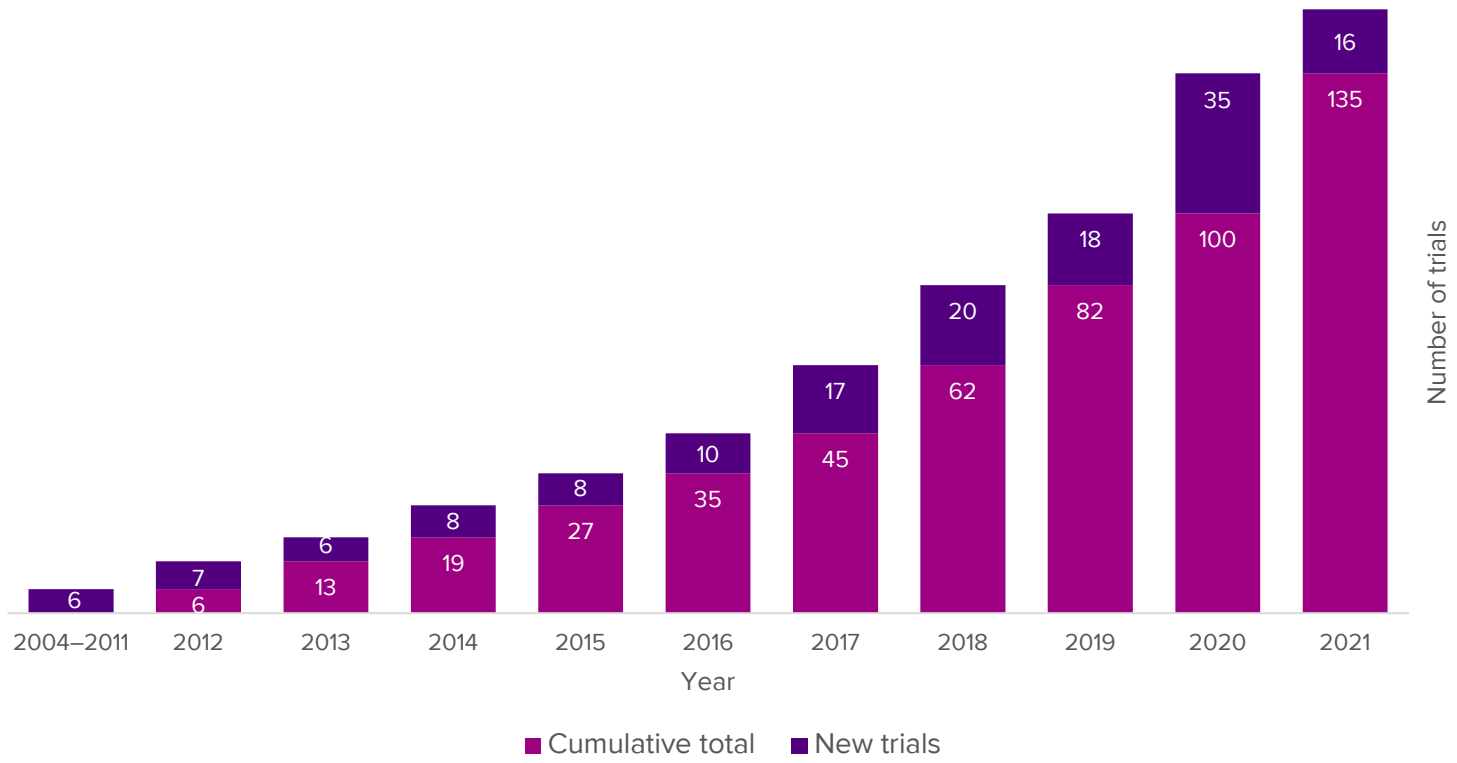
- ***Segment/Customer Need:*** Automation, consistency and standardization, fixed and validated panels, unbiased analysis
- ***Fluidigm Solution:*** Foundational technology provides consistent and stable measurement/readout. Mass Cytometry for Fluidigm customers has shown it provides an ability to test new biomarkers associated with disease prognoses and therapy guidance.

Research Genre Description	Discovery Research	Translational Research	Clinical Research
	Systematic study directed toward greater understanding of fundamental mechanisms that drive disease	Transfers new understandings into the development of new methods for diagnosis, therapy and prevention in humans	The study of human subjects and samples, testing new methods of diagnosis, prevention and treatment

Accelerated Pace of Adoption

National Clinical Trials Citing CyTOF Technology

By Study Start Date



Source: clinicaltrials.gov April 2021

Highlights

60% of trials completed outside US

75% of trials completed by academia or academic medical centers

~90% of trials conducted for Phase 1–2; ~10% Phase 3–4 (by number of trials or subject enrollment)

Trials by research area:
Immuno-oncology (40%), vaccine development, oncology, autoimmunity, COVID-19 ~8–10% each

Vision 2025: Mass Cytometry

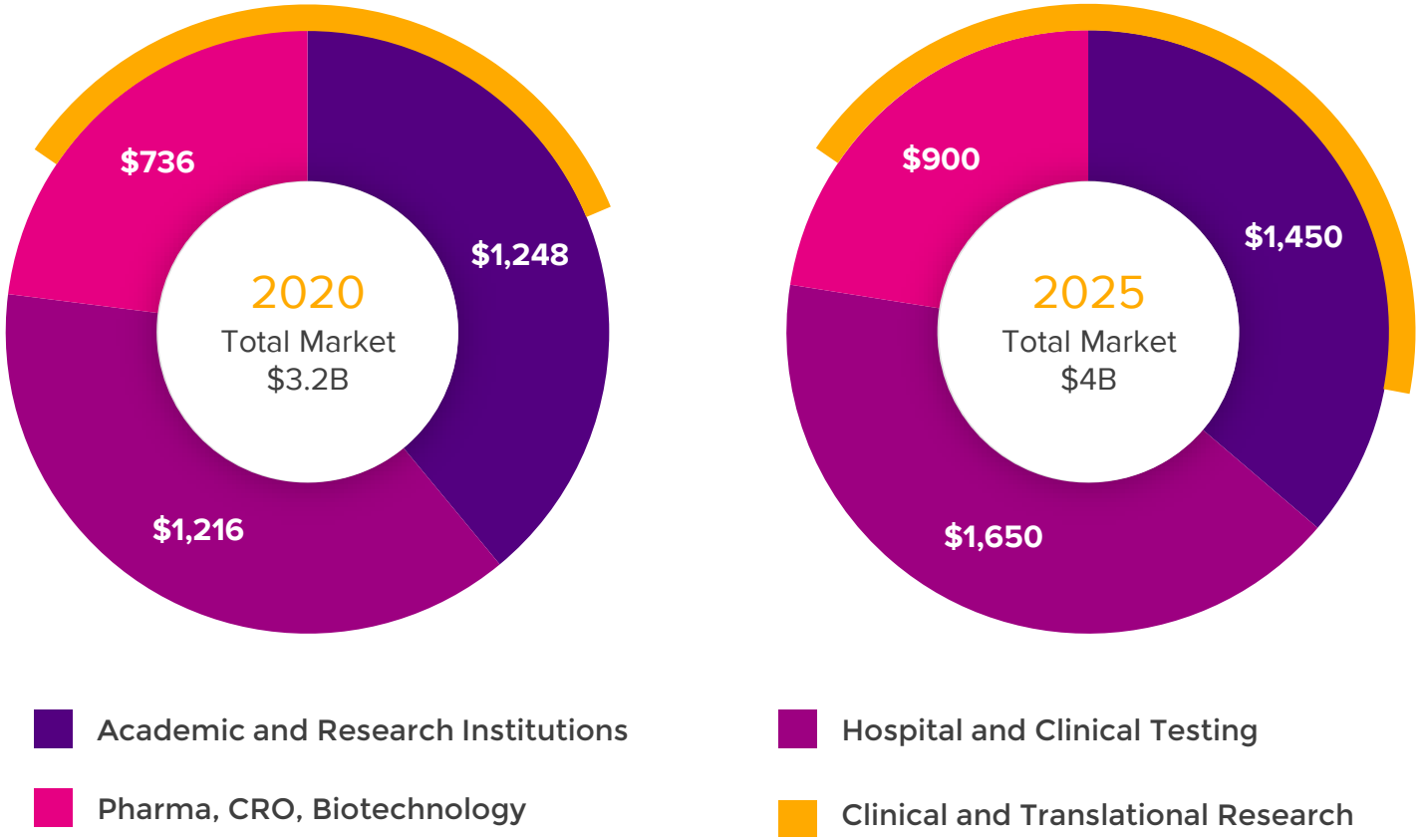
Markets

Beachheads

Innovation

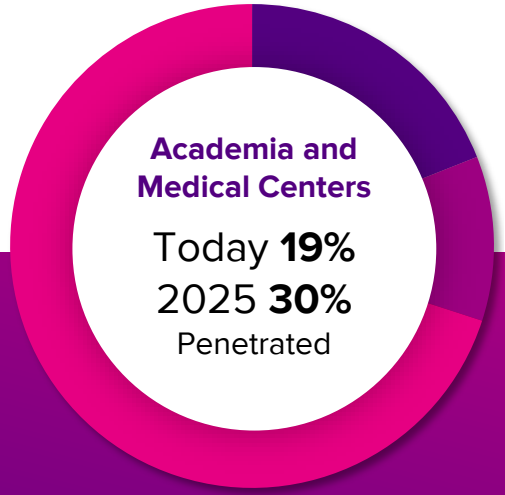
Partnerships

Focused on Highest Growing Cytometry Market Segments



- Clinical and Translational Research Market $700M–$1,200M (2020) growing to $1,300M–$2B in 2025
- Clinical and Translational Research Market is growing at 10%-plus

Opportunity to Expand Market Penetration



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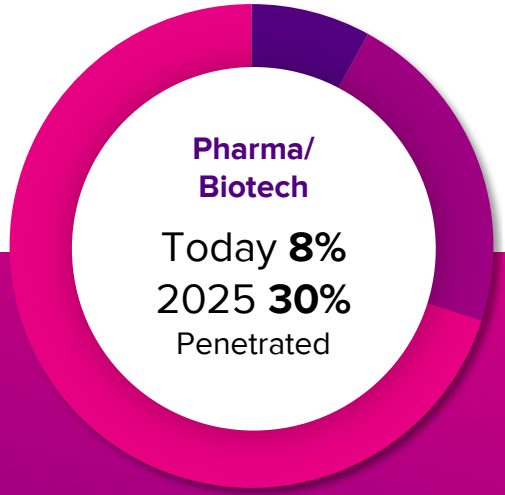

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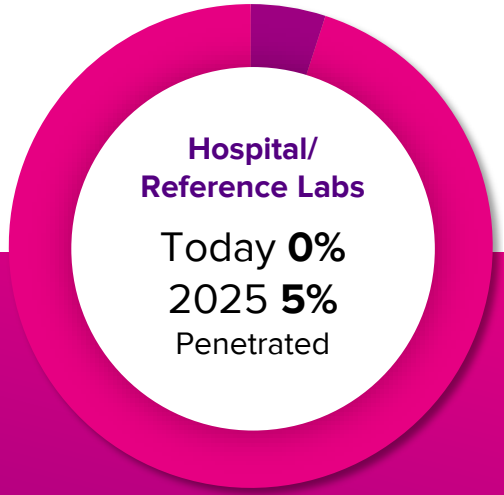

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Vision 2025: Innovation Accelerates Segment Growth

Higher-Throughput Platforms

H2 2021
- CyTOF XT™

2022
- Clinical cytometry entry in China via PLT partnership

2023 - 2025
- Planned platform upgrades

Fixed and Flexible Assays

H1 2021
- 687 conjugates
- 28 panels
- 53 parameters

H2 2021
- ~750 conjugates
- 31 panels
- 57 parameters

2022
- 1,000–1,400 conjugates
- >35 panels
- 60-plus parameters

2023 - 2025
- >2,000 conjugates
- >50 panels
- 70-plus parameters

Automated Analysis

H2 2021
- Instrument remote monitoring
- Maxpar® Pathsetter™ customization (automated analysis for immune monitoring)

2022
- CyTOF XT user interface upgrade

2023 - 2025
- Disease research specific modules
- Blood cancer diagnostic and immunotherapy guidance (PLT)
- Cloud analysis

Introducing CyTOF XT

Mass Cytometry Product Enablement Roadmap

CyTOF XT

- Reduced total cost of ownership
- Automated setup and data acquisition
- Extended run times and system monitoring

Enables

- Site standardization
- Increased productivity
- Studies with larger sample sizes

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CyTOF XT: Affordable High-Parameter Cytometry

Anticipated ASP: $365K to $410K USD. Positioned to drive unit placements. High-margins Service offering in line with market expectations.

Instrument Price

35% Lower

Operational Cost

30% Lower

Operator

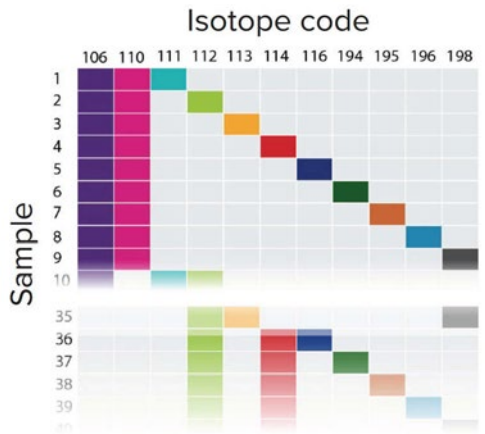
½ Time

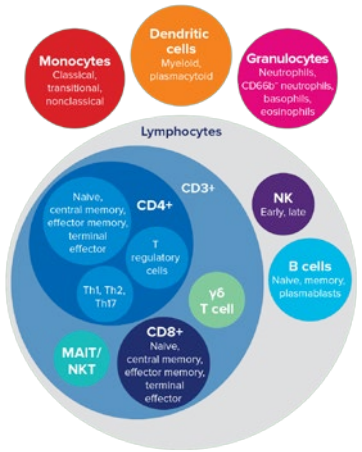
Sample Throughput

2–3x Higher

Vision 2025: Innovation

Setting the Standard in Clinical Research





Live-cell barcoding (H1 2021)

- Sample multiplexing for increased efficiency
- Enhanced data quality and workflow

Expansion modules for Maxpar® Direct™ Immune Profiling Assay™ (H2 2021)

- Deep profiling of >35 immune cell populations with enhanced phenotyping of activation states, cytokine production

Enables

- Larger studies
- Access to more applied markets (infectious disease)
- Standardization across sites

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Vision 2025: Tissue Imaging

Markets

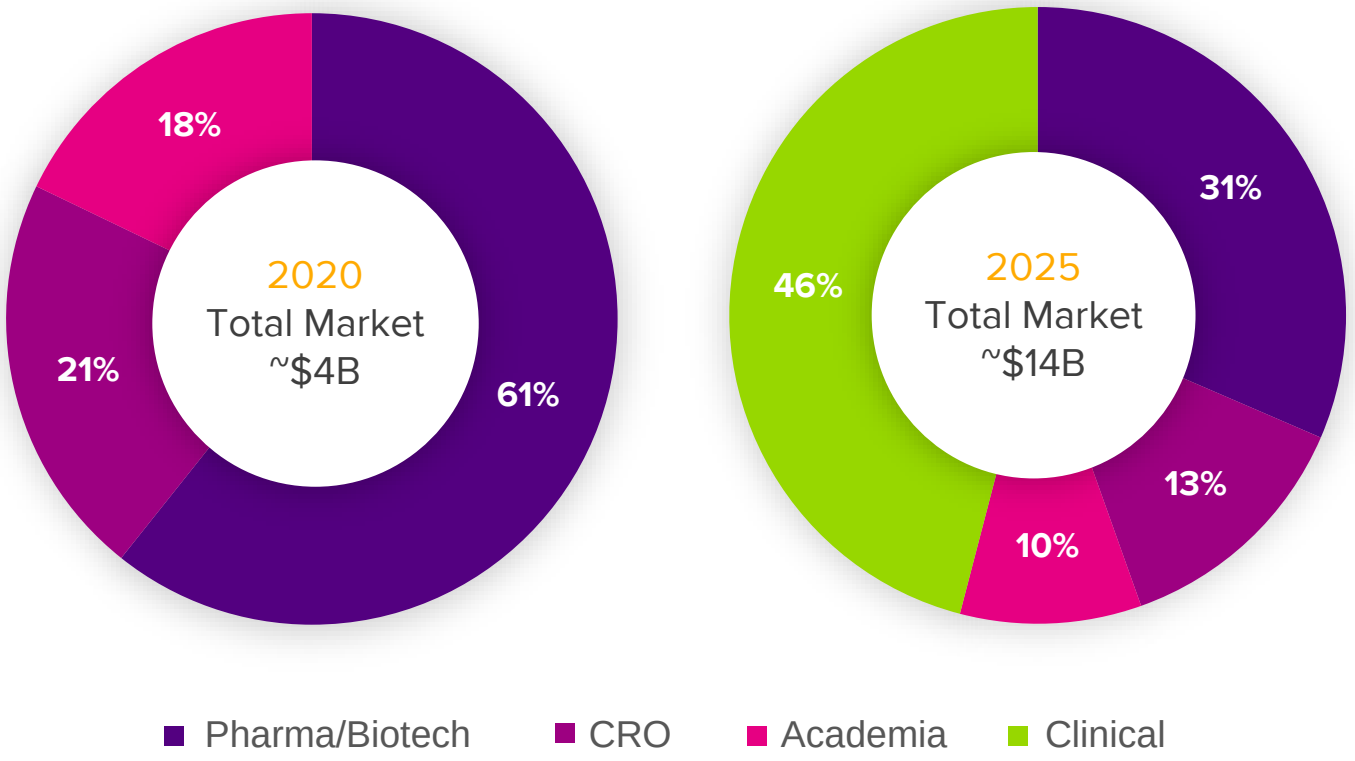
Beachheads

Innovation

Partnerships

Fluidigm Strength in Translational Markets

Spatial proteomics is largely translational today, but the potential for spatial in the clinical setting is growing rapidly.



- Total Tissue Imaging market is growing at ~12% CAGR.
- Translational segment is driving demand for high-plex platforms.
- Increased future addressable market:
  - Improved workflow by aggregating current immunohistochemistry biomarkers into one test
  - Improved predictive value compared to existing prognostic therapy guidance test with potential novel content unique to spatial

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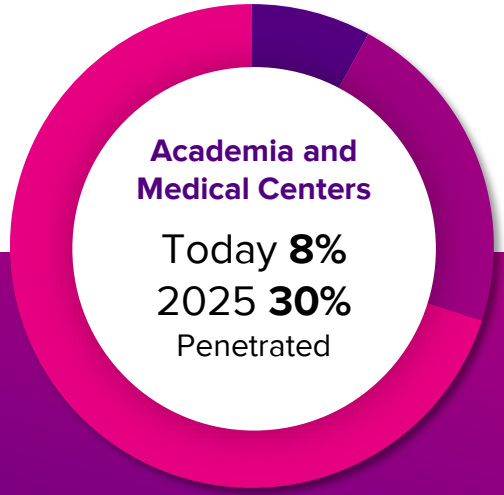
Opportunity to Expand Market Penetration



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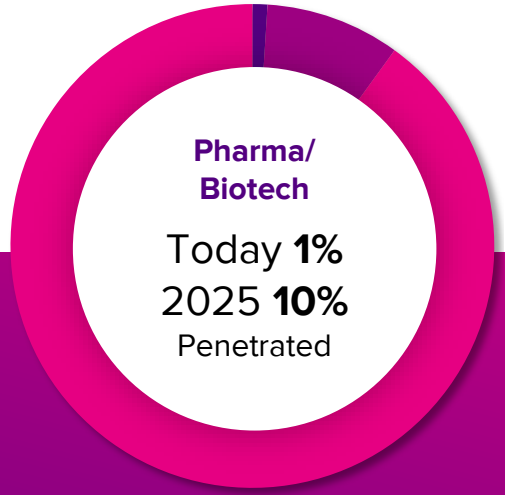

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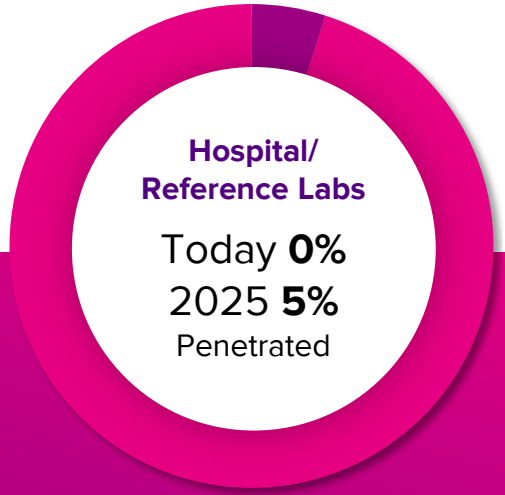

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Fluidigm Offers the Most Complete Solution

Translational and Clinical Research

	Marker Type	Multiplexity	Resolution	Cost per Sample	Sensitivity	Verified Reagents
Spatial Proteomics (Fluidigm)	✓	✓	✓	✓	✓	✓
Cyclic Immunofluorescence	✓	✗	✓	✓	✗	✗
Spatial Transcriptomics	✗	✓	✗	✗	✗	✗

Highlights

Fluidigm continues to be at the cutting edge of innovation.

Vision 2025: Innovation

To Penetrate Future Clinical Settings

Platforms

Q4 2021
- New Tissue Imager early access

H1 2022
- Commercial release of new Tissue Imager

2022–2025

Future platform development focused on:
- Increased speed, sensitivity, throughput and robustness
- Simplified user experience
- Automation

Fixed and Flexible Assays

H2 2021
- 150–200 conjugates
- 6 panels
- 39 channels

2022
- 400–600 conjugates
- 10-plus panels
- 40 channels

2022–2025
- >1,000 conjugates
- >20 panels
- 50-plus channels

Automated Analysis

H2 2021
- Semi-automated analysis

2022
- Application-specific output
- AI cell segmentation

2023–2025
- Disease-specific modules
- Cloud-based personalized applications

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Vision 2025: Partnerships and Beachheads

Vision 2025: Beachheads Drive Adoption

NIH sponsored consortia to standardize immune profiling of immunotherapy patients, create data commons for biomarker discovery and verification. CyTOF and Maxpar Direct Immune Profiling Assay chosen as Tier 1 assays.

Cancer Centers and Consortia

- >50% penetration of global cancer centers
- CIMAC-CIDC
- The 10,000 Immunomes
- CELPHEDIA
- IMID-Bio-UK
- CANCERPREV
- Multiple Myeloma Research Foundation
- FLAMIN-GO Project

Pharma/Biotech

- Immuno-oncology Phase 1–2 drug development
- Prospective clinical research
- Vaccine development
- Companion diagnostics

Clinical Research Organizations

- Covance by Labcorp
- Teiko.bio
- CellCarta/Caprion Biosciences
- Sirona Dx
- ImmunoScape

Vision 2025: Partnerships to Accelerate Future Market Opportunity

	Q2	Future
Platform development	✓	✓
Content expansion	✓	✓
Diagnostics		✓
Analysis software	✓	✓
Clinical services		✓

Conclusion

Significantly underpenetrated market segments

More comprehensive, superior capabilities

New partnerships and beachheads accelerating innovation to drive revenue growth

Thank You

FLUIDIGM®

Bringing New Insights to Life™

FLUIDIGM®