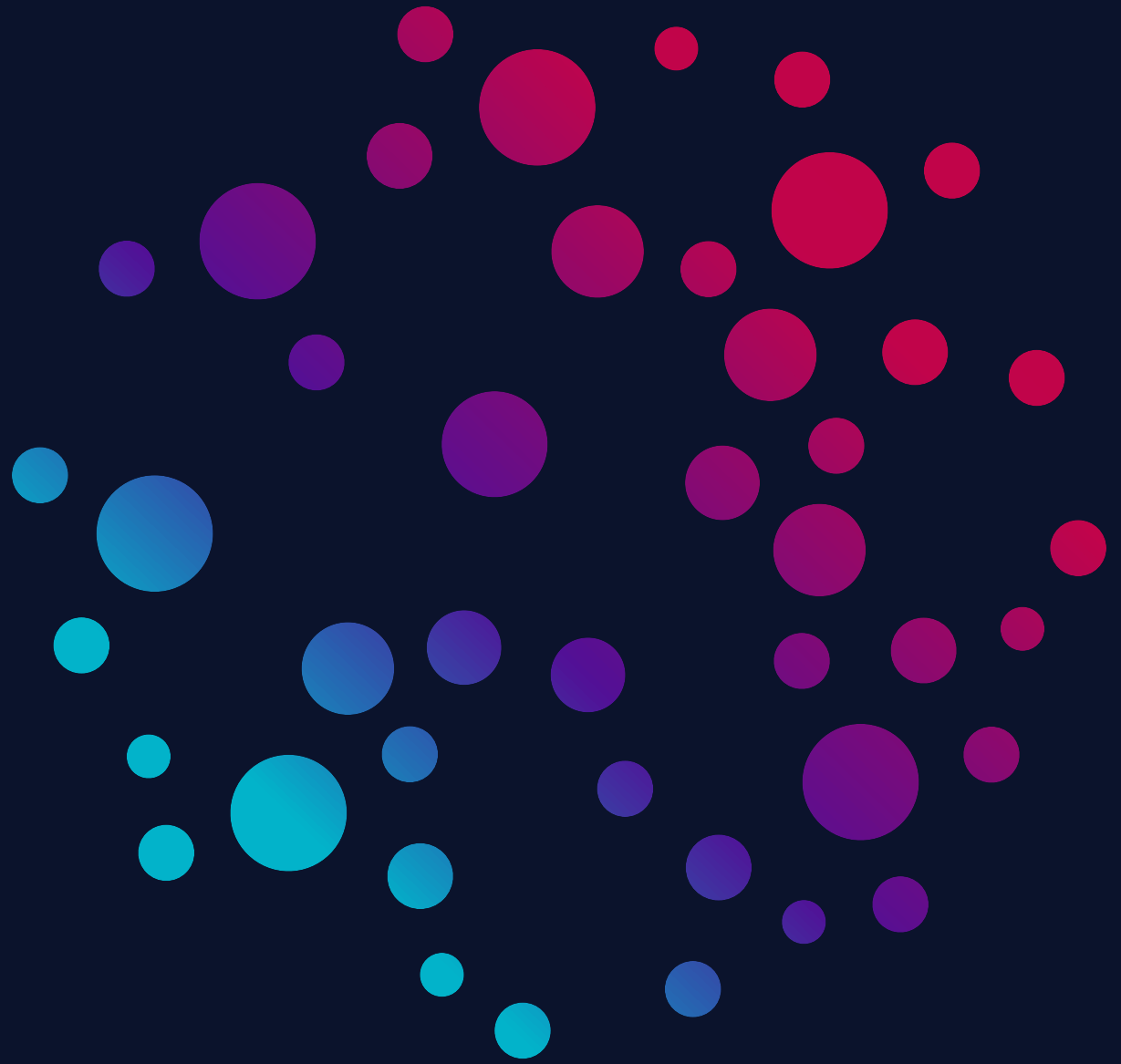
AKOYA BIOSCIENCES® · The Spatial Biology Company

41st Annual J.P. Morgan Healthcare Conference

January 11, 2023

Brian McKelligon, CEO



Disclaimer

Cautionary Note Regarding Forward-Looking Statements

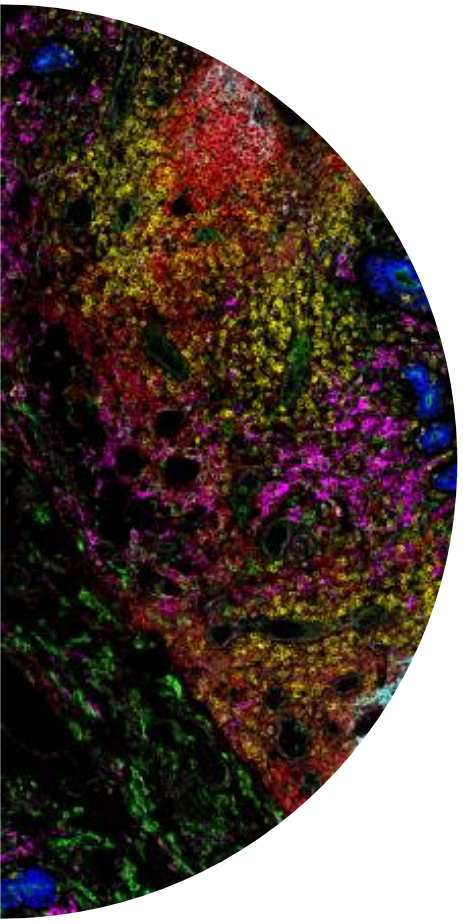
This presentation includes express and implied “forward-looking statements.” In some cases, you can identify forward-looking statements by terms such as “ anticipate,” “estimate,” “expect,”“ intend,”“ may,”“ might,”“ plan,”“ project,”“ will,”“ would,”“ should,”“ could,” “can,”“ predict,”“ potential,”“ or the negative of these terms, and similar expressions intended to identify forward-looking statements However, not all forward-looking statements contain these identifying words These statements may relate to our strategic plans or objectives, revenues or earnings projections, or other financial items. By their nature, these statements are subject to numerous uncertainties, including factors beyond our control, that could cause actual results, performance or achievement to differ materially and adversely from those anticipated or implied in the statements You should not rely upon forward-looking statements as predictions of future events. Although our management believes that the expectations reflected in our statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Moreover, neither we, nor any other person, assumes responsibility for the accuracy and completeness of these statements Recipients are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date such statements are made and should not be construed as statements of fact. We undertake no obligation to update these forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of unanticipated events.

Market Industry Data

Projections, estimates, industry data and information contained in this presentation, including the Company’s general expectations and market position and market opportunity, are based on information from third-party sources and management estimates Although the Company believes that its third-party sources are reliable, the Company cannot guarantee the accuracy or completeness of its sources The Company’s estimates are derived from third-party sources, publicly available information, the Company’s knowledge of its industry and assumptions based on such information and knowledge The Company’s estimates have not been verified by any independent source All of the projections, estimates, market data and industry information used in this presentation involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such information In addition, projections, estimates and assumptions relating to the Company’s and its industry’s future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including, but not limited to, those described above, that could cause future performance to differ materially from the Company’s expressed projections, estimates and assumptions or those provided by third parties.

Akoya is Leading the Spatial Biology Revolution

Transforming Discovery to Diagnostics



Best-in-class platform requirements
Fastest, multiomic, single-cell imaging with subcellular resolution on whole slide

Complete end-to-end solutions
Instruments, reagents, software & services

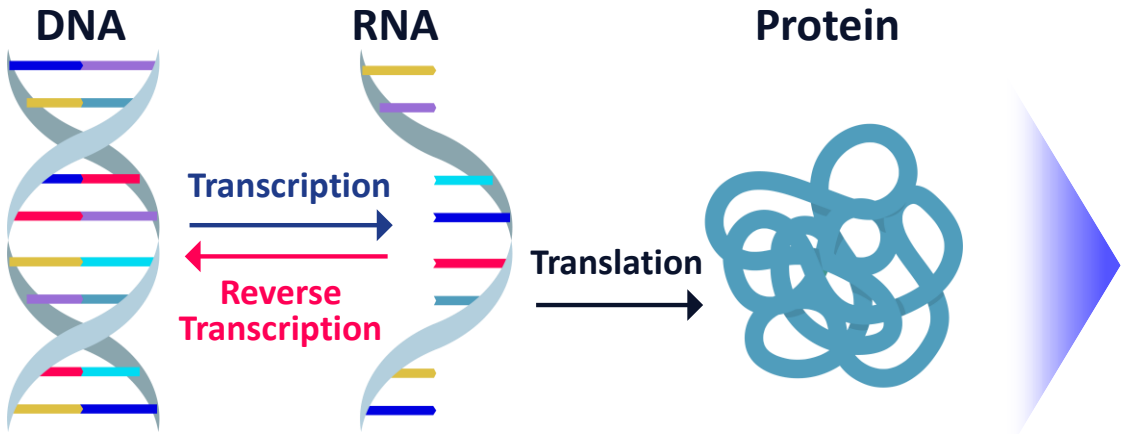
Established market leader with largest installed base
860+ instruments installed worldwide*

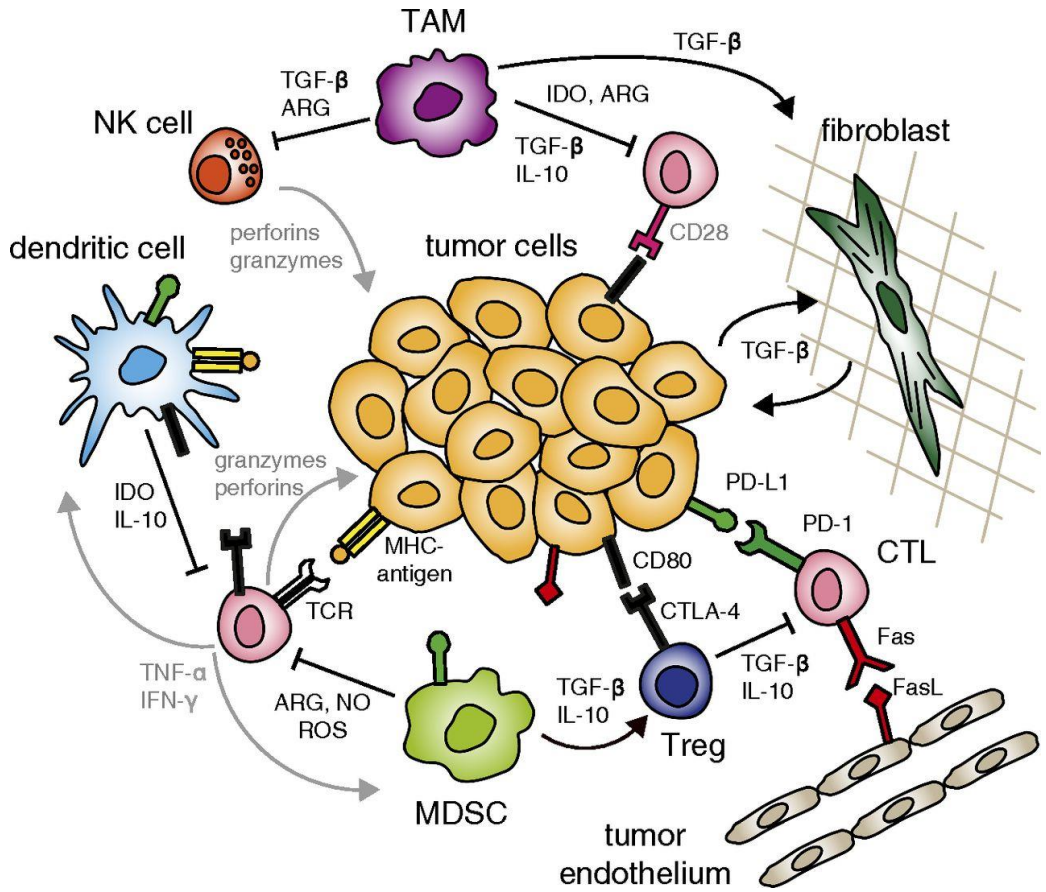
Greatest number of high-impact publications
690+ total publications*

*As of September 30, 2022

Driving Towards a Deeper Understanding of Biology

Advancing Next Generation Tissue Analysis

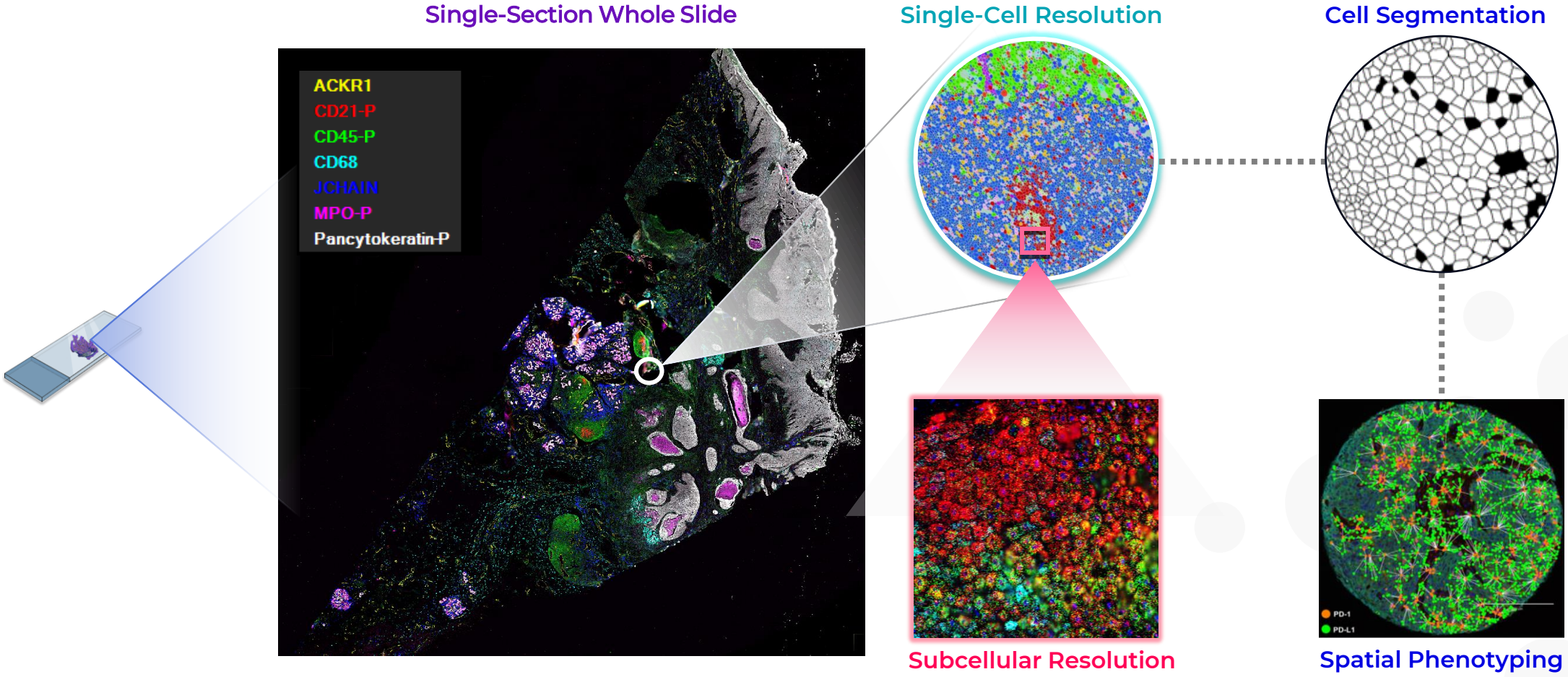




Understanding disease progression & response to therapy requires **UNBIASED** mapping of tissue architecture

Akoya is Transforming Tissue Analysis

Mapping Whole Tissue Unlocks an Understanding of Disease Progression & Response to Therapy

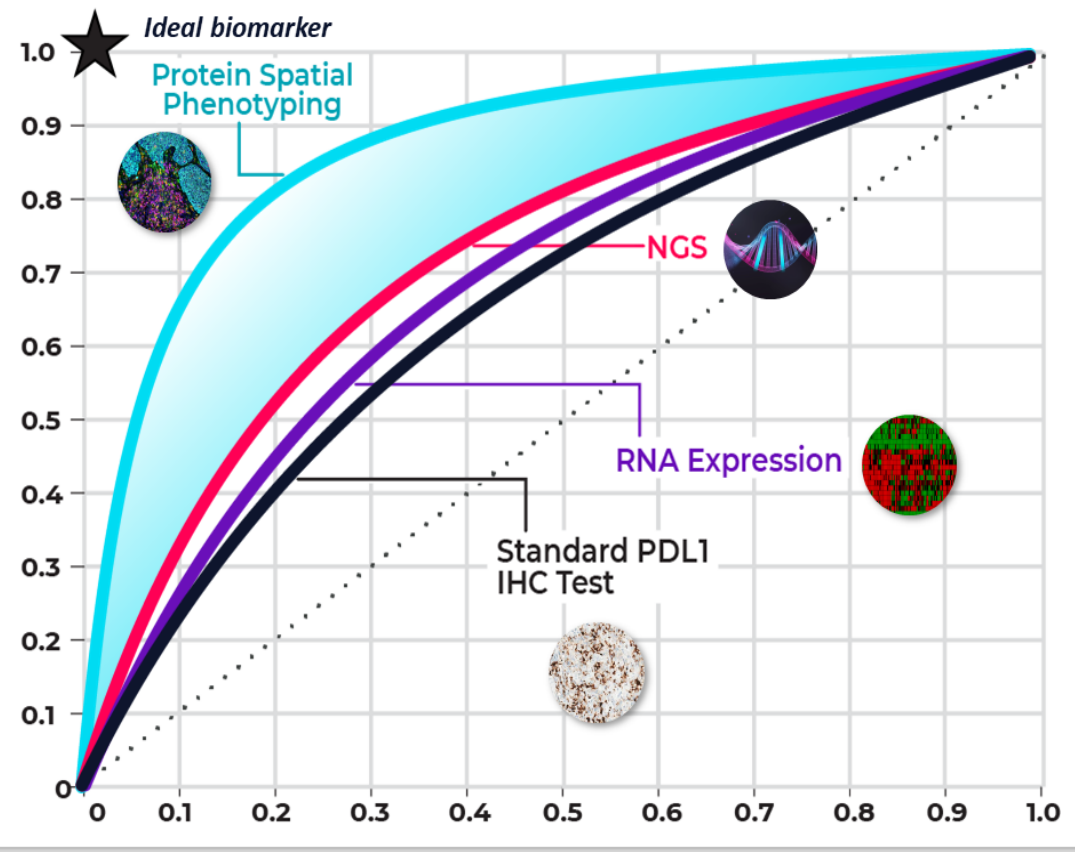


The **LOCATION** of key cell types, proteins & transcripts drives tumor activity & immune response

Meeting an Unmet Medical Need in Immunotherapy

JAMA Publication Highlights Spatial Phenotyping as a Superior Approach[1]

Spatial phenotyping is poised to address the IO biomarker gap



What is next?

Ideal predictive power

Response to immunotherapy in solid tumors

High	Low
>80%	<5%

Tumor Mutational Burden (TMB)

Limited predictive power

Response to immunotherapy in solid tumors[3]

High TMB	Low TMB
~40%	~20%

PDL1 IHC

Limited predictive power

Response to immunotherapy in solid tumors[2]

PDL1 +	PDL1 –
~40%	~13%
True Positive	False Negative

[1] *Lu S, Stein JE, Rimm DL, et al, JAMA Oncology 2019;5(8):1195–1204*
[2] *Diggs and Hsueh Biomarker Research (2017) 5:12;*
[3] *Hendriks LE, et.al.. Transl Lung Cancer Res. 2018;7(6):647-660*

Akoya Enables Complete End-to-End Spatial Solutions

Owning the Spatial Biomarker Journey – Discover, Validate & Deploy

Discovery | **Translational** | **Clinical**

RNA Menu

Protein Menu

CLIA Lab Services

PhenoCycler-Fusion

PhenoImager Fusion

PhenoImager HT

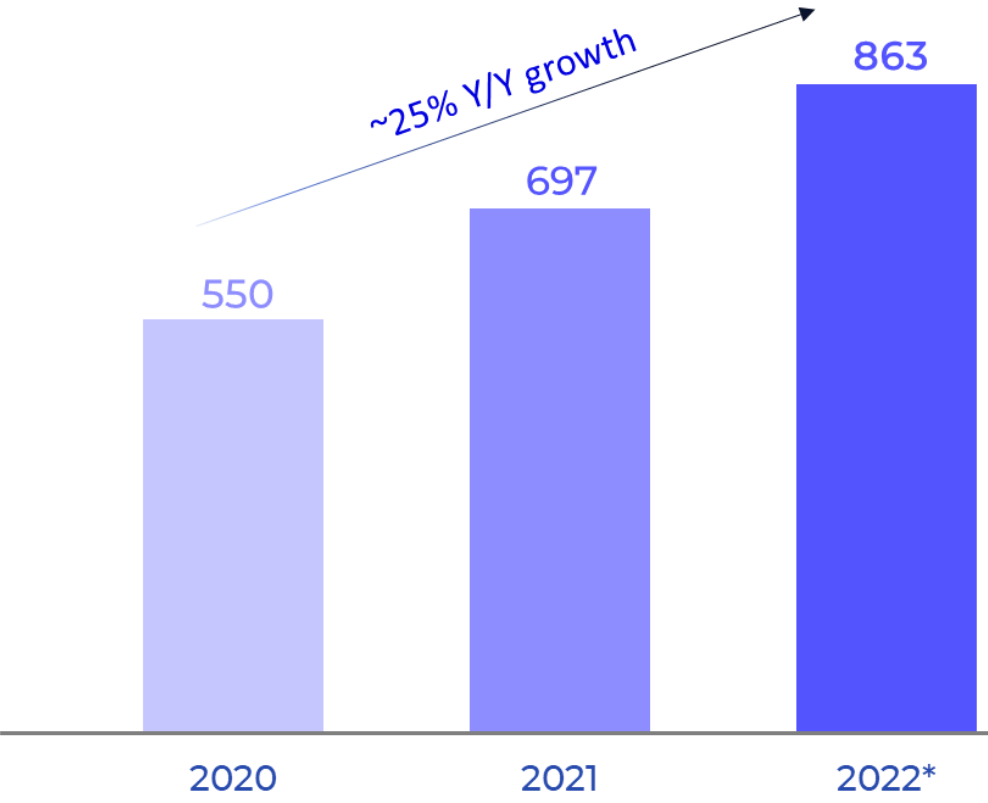
Biomarker Discovery
High multi-plex panels

Biomarker Validation
Targeted panels

Translational / Clinical Use
Large-scale studies

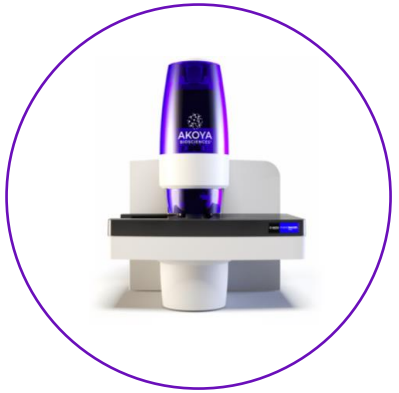
Akoya's Largest & Rapidly Growing Installed Base

Adoption Across Discovery, Translational & Clinical Markets

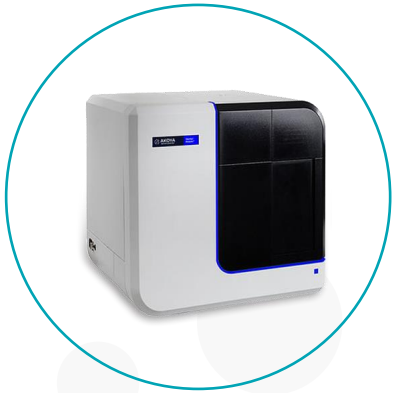


Installed base of **863** instruments

229
Pheno**Cyclers**



83
Pheno**Imager**
Fusions

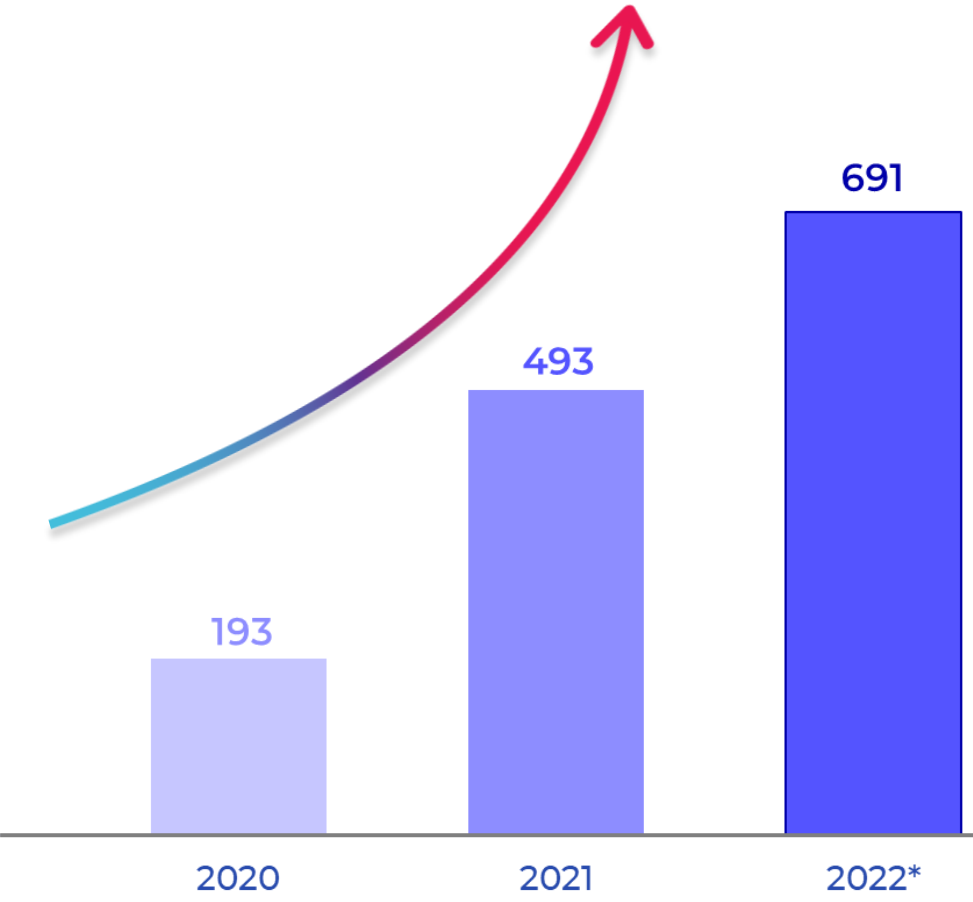


551
Pheno**Imager HTs**,
Mantras & Vectras

**As of September 30, 2022*

Akoya's Accelerating & Market Leading Publication Volume

Spatial Biology is Driving Major Discoveries Across Multiple Therapeutic Areas



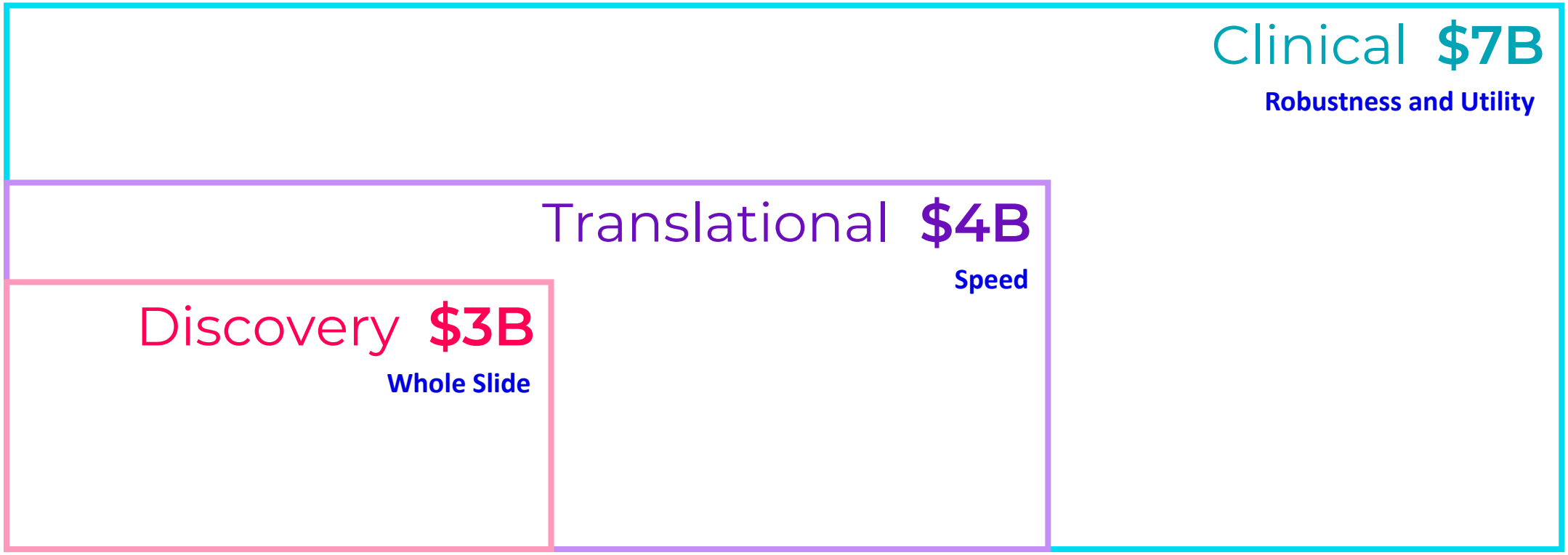
691

Total publications featuring Akoya's platform

*As of September 30, 2022

Immediate Opportunity in Discovery & Translational Markets With Clinical Rapidly Emerging

Estimated Total Addressable Market (TAM) ~ $14B

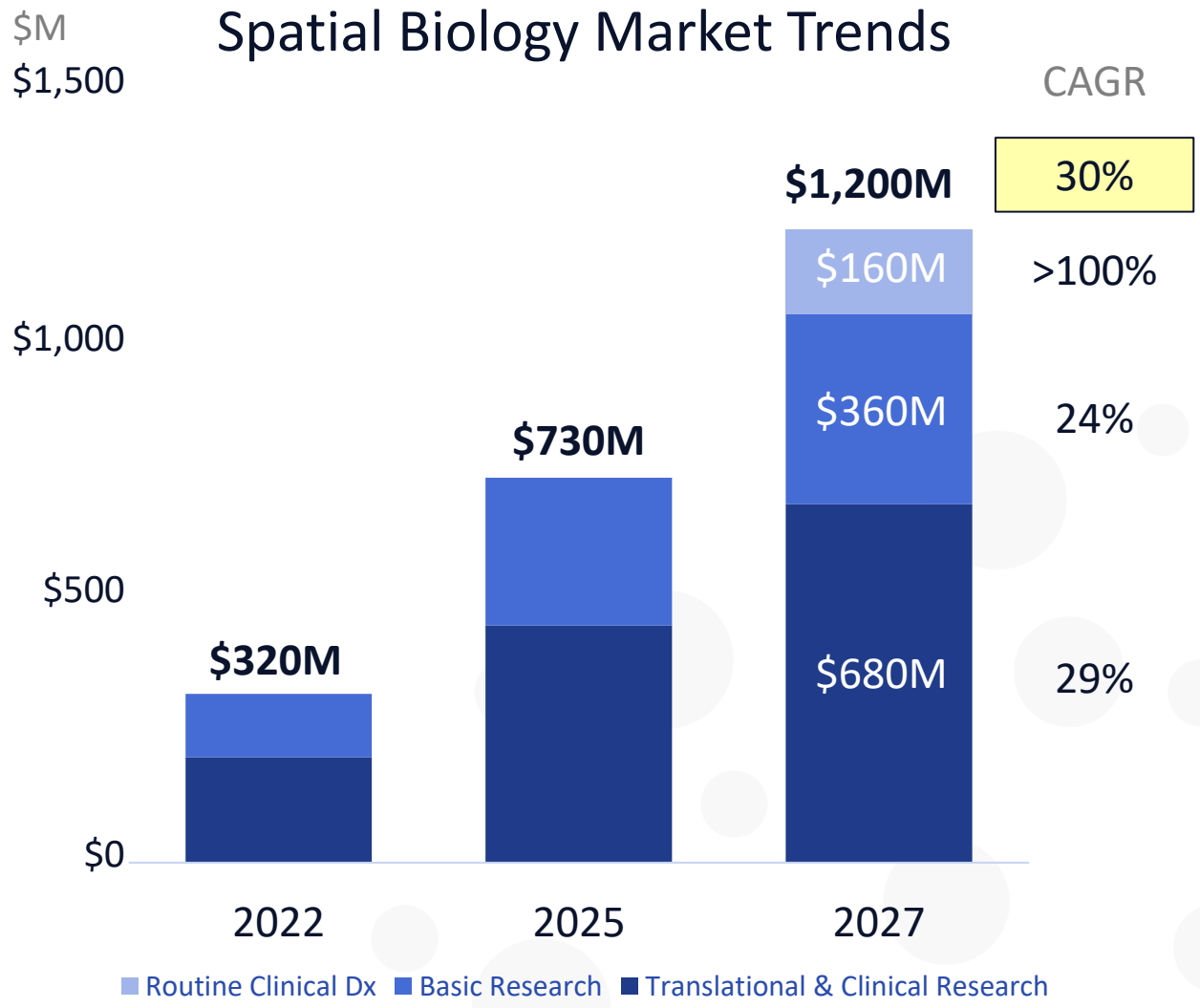


Akoya is meeting customer & market segment **requirements** to drive market expansion

Drivers of Spatial Biology Market Growth Over Next 5 Years

DeciBio Projects < 10% of TAM to be Realized by 2027*

- Spatial biology market will grow 30% annually in the next 5 years
- Translational & clinical research to make up the largest market segment
- Routine clinical dx expected to be the fastest growing market segment
- Multi-plex immunofluorescence (mIF) a key technology growth driver



*DeciBio Spatial Biology Market Report First Edition: Q4 2022; November 7, 2022

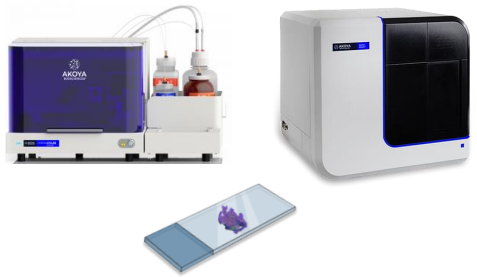
Setting the Standard in Spatial Biology

Akoya Consistently Leads in Meeting Spatial Biology Market Requirements

2019-20

***In Situ* Imaging**

Single-Cell
Whole Slide



2021-22

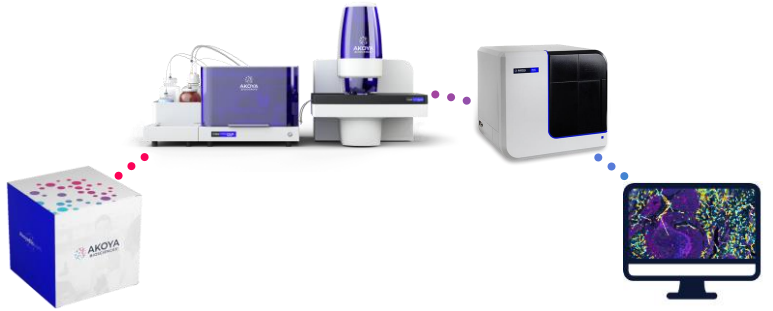
Scalability

Fastest Spatial
Biology System

2023+

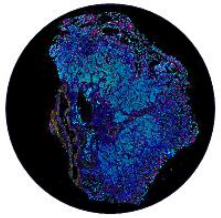
Simplicity

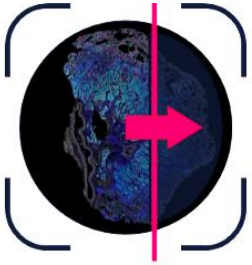
Accelerated Workflow
& Application Expansion

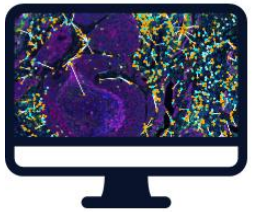


Akoya's Spatial Biology Workflow

Continuous Improvements in Simplicity & Scalability Drive Platform Utilization and Pull Through







PROBE AND STAIN

Rapid Menu Expansion
- Ready-to-use panels & increasing plex
- New applications
- Consistent chemistries

IMAGE

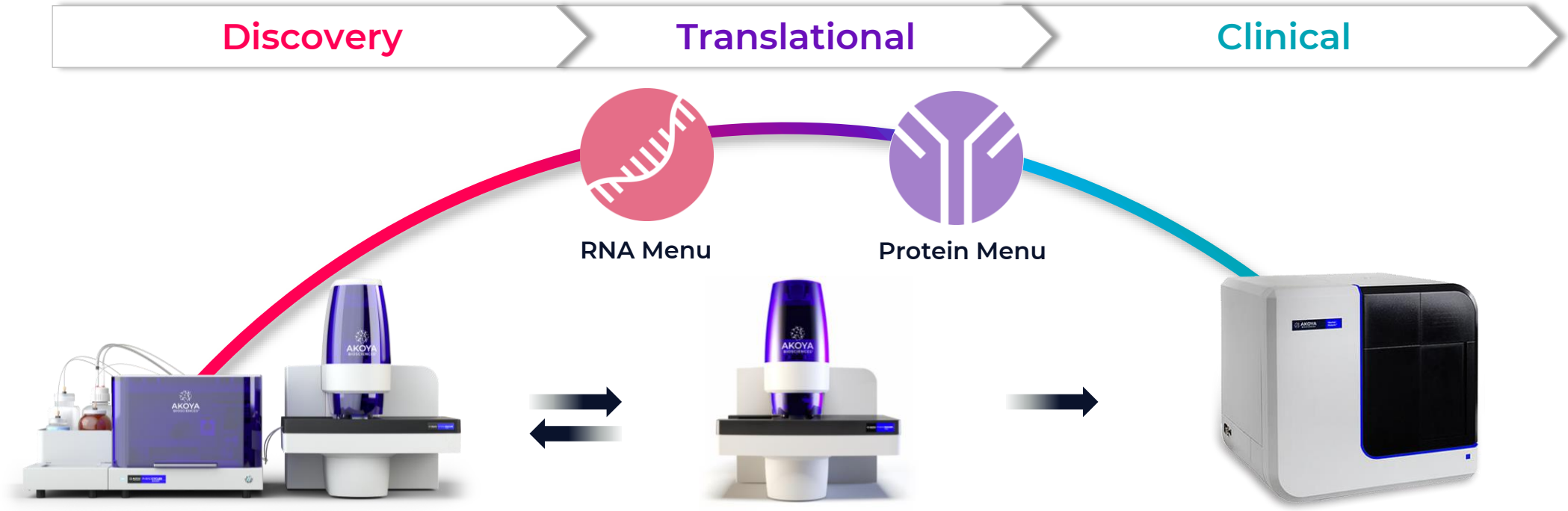
Improved Workflows
- Continuous speed improvements
- Workflow simplification
- Consistent imaging methods

ANALYZE

Flexible Data Analysis
- Proprietary data compression
- Solutions serve every user need
- Consistent image analysis methods

Menu Expansion – Discovery to Validation to Clinical

New Panel-Based Chemistry Simplifies, Accelerates & Harmonizes the Workflow



PhenoCycler-Fusion

Biomarker Discovery

Discovery Panels

PhenoImager Fusion

Biomarker Validation

Signature Panels

PhenoImager HT

Translational / Clinical use

Signature Panels

Enabling RNAscope™ on Pheno**Cycler-Fusion**

Extending Our RNA Solution Portfolio Through a Strategic Partnership with ACD

AKOYA BIOSCIENCES®
THE SPATIAL BIOLOGY COMPANY®

The leader in single-cell spatial proteomics with whole-slide imaging at single-cell resolution

ACD™
a bio-techne® brand

The **gold standard in low to mid-plex spatial *in situ* assays** based on proven RNAscope™ technology with > 5,800 publications

RNAScope™ complements Akoya's solution & **empowers our customers with:**

- A direct RNA detection technology on Pheno**Cycler-Fusion**
- Targeted RNA applications or validation studies
- Automated 12-plex RNA configuration
- Sample-to-data within 24 hours

Commercial rollout 1H '23


PD-1, PD-L1, FoxP3,
CD3, CD8, CD4,
CD20, CD68, CD163,
PanCK, SOX10, S100
PD-1, PD-L1, FoxP3,
CD3, CD8, CD4,
CD20, CD68, CD163,
PanCK, SOX10, S100
Introducing
PhenoCode
Discovery or Signature Panels & Assays

Introducing PhenoCode™ Panels

Delivering a Suite of Discovery & Translational Solutions Focused on Key Biological Questions

RNA Menu + Protein Menu

Discovery

PhenoCode

Discovery Panels

- High-plex RNA & protein panels
- Focus on oncology, inflammatory disease & neurobiology markers
- Ready-to-use panels & modules
- High-plex panels enable unbiased & comprehensive discovery experiments
- ***Increased pull through & accelerated time to answer***

Translational

PhenoCode

Signature Panels

- Low to mid-plex targeted protein panels
- Core immuno-oncology markers
- Complete assay solution, automation ready, with ability to customize
- Reduction in time to design & validate panels by 3x
- ***Increased pull through & accelerated time to answer***

PhenoCode™ Discovery Panels for Comprehensive Coverage

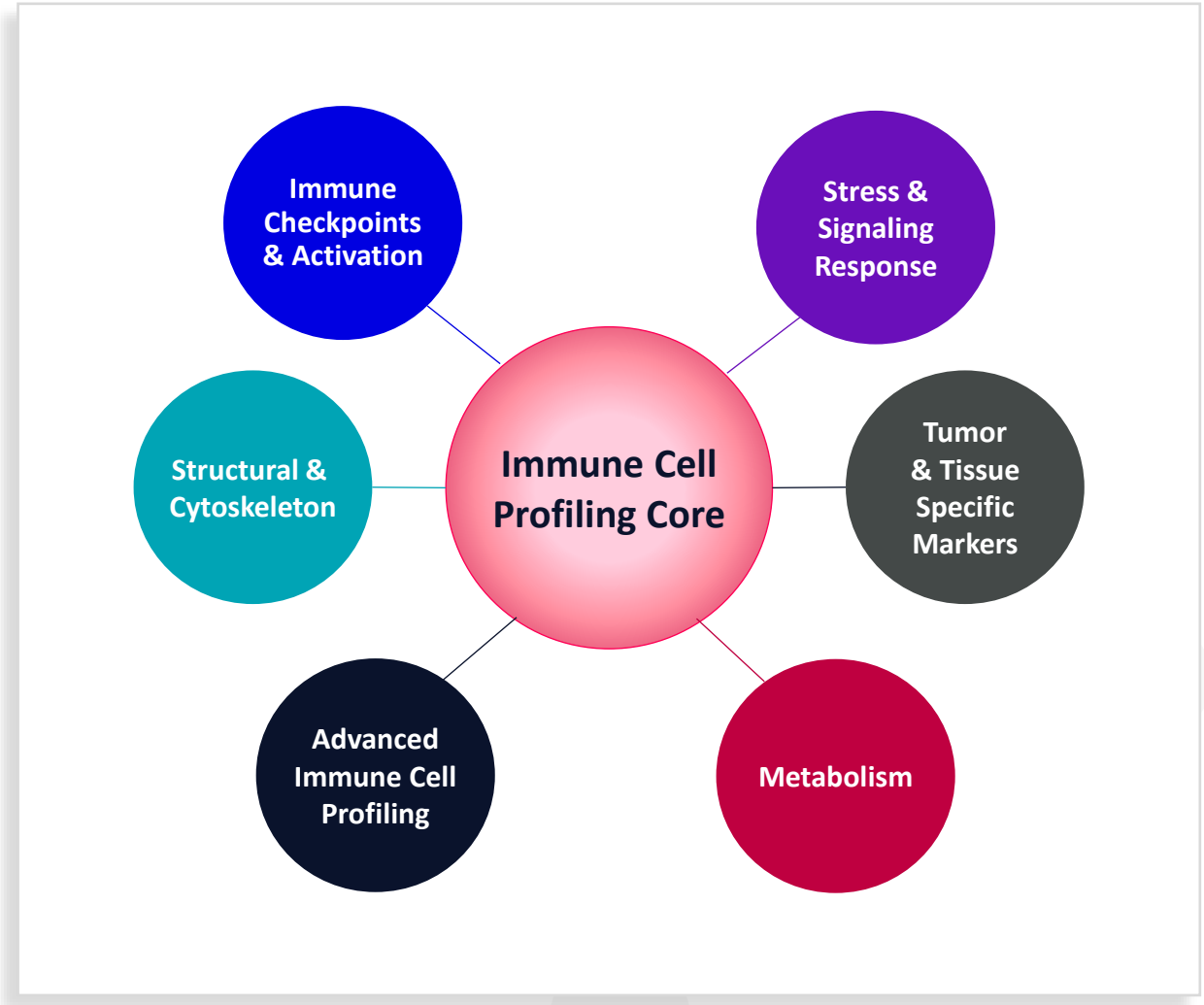
High-Plex Panels for Biomarker Discoveries Across Multiple Research Verticals

PhenoCode™ Discovery Panels

Protein panels rolling launch throughout ’23

RNA panels launch 2H ‘23

2023



PhenoCode™ Signature Panels for Immuno-Oncology

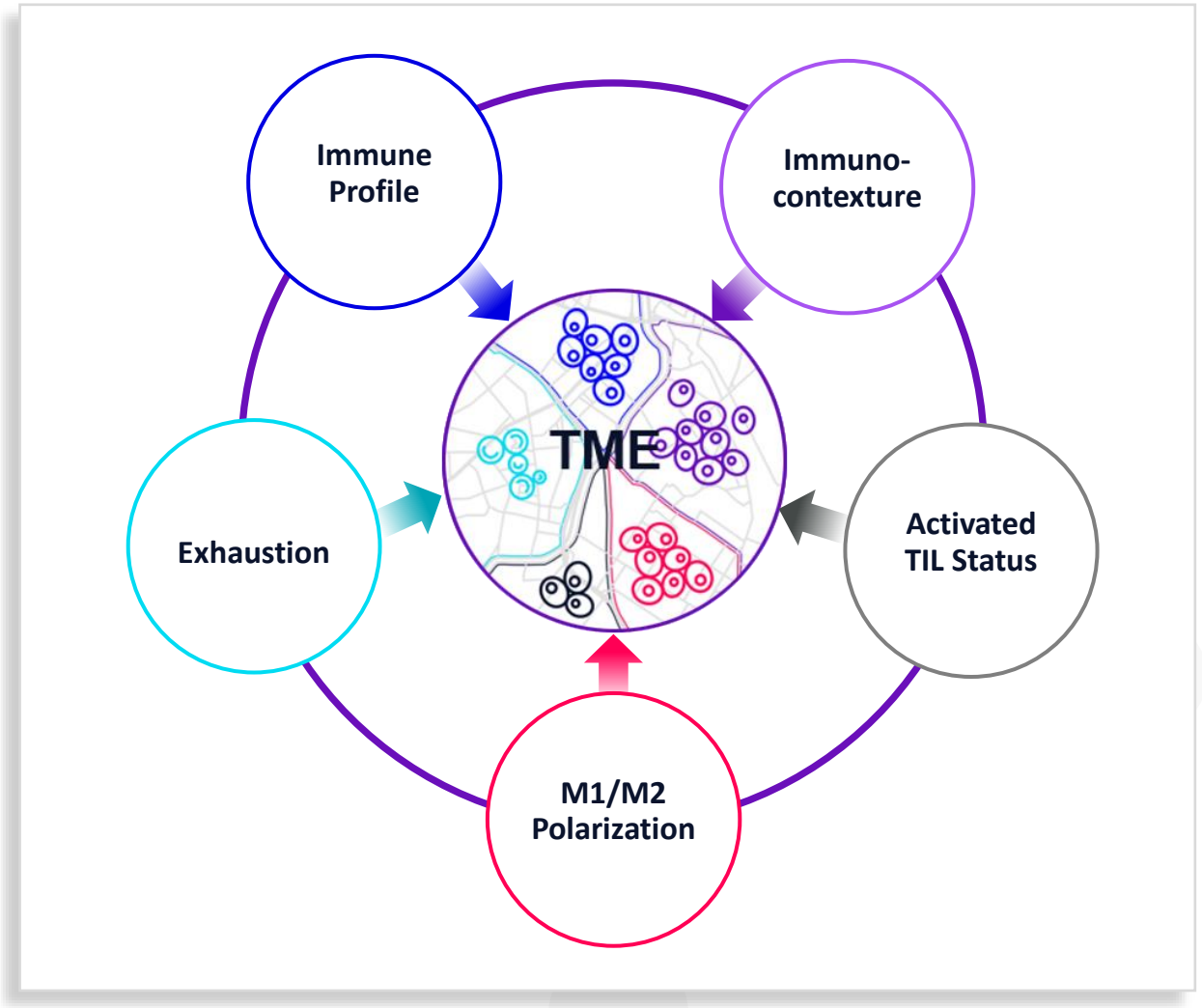
5 Customizable Panels Focused on Key Clinical Questions

Launched at SITC – Nov ’22

PhenoCode™ Signature Panels

First 5 panels
commercial 1Q ’23

2023



PhenoCycler-Fusion Journey

Enabling Higher Plex, Menu Expansion, Faster Workflows & Scaled Experiments

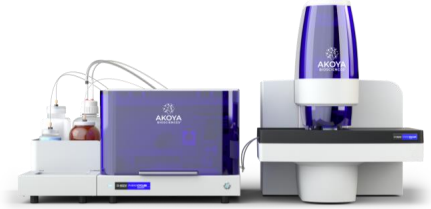
PhenoCycler

- 50 plex
- 2 samples / week
- Required 3rd party microscope

2019-20

PhenoCycler-Fusion 1.0

- 75 plex
- 10+ samples / week
- Real time data compression



2021-22

PhenoCycler-Fusion 2.0

- 100+ plex & panel-based
- 20+ samples / week
- RNA and protein

PhenoCode

ACD a bio-techne brand

2023

Multi-Slide Automation
Field upgrades 1H ’23

ACD’s RNAscope™
Rollout 1H ’23

PhenoCode Discovery RNA Panels
Launch 2H ’23

PhenoCode Discovery Protein Panels
Throughout ’23

PhenoImager HT Journey

Translating Discoveries to the Clinic & Building the Foundations for Diagnostics

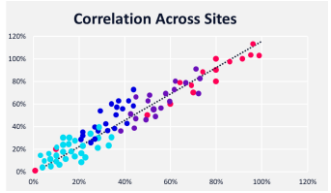
Core Requirements

- 6+ plex customer designed
- 300 samples / week
- ISO & quality systems

2019-20

First Mover Advantage

- MITRE study published
- ABS launched
- CLIA certified



AKOYA ADVANCED BIOPHARMA SOLUTIONS (ABS)

Bristol-Myers Squibb · AKOYA · Johns Hopkins University · Yale · Providence Health & Services · MD Anderson Cancer Center · UKIA

2021-22

Accelerating Adoption

- 6+ plex ready-to-use
- Biopharma CDx partnerships
- Workflow ecosystem

Acrivon Therapeutics · Agilent

PhenoCode

2023

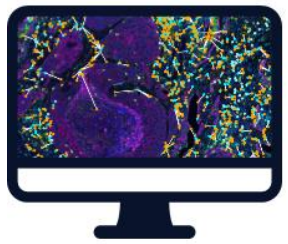
PhenoCode IO Signature Panels
First 5 panels commercial rollout 1Q ’23

Acrivon CDx Partnership
Deliver progress on CDx

Agilent Partnership
Commercialize workflow

Software Adoption Relies on Flexible Data Analysis

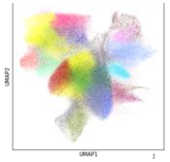
Choice of Analysis Method, Deployment & Workflow



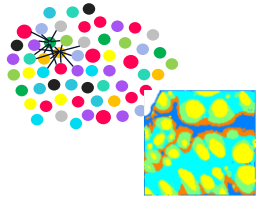
Open Source | Desktop | Cloud | Outsourced | Custom Developed

DISCOVERY

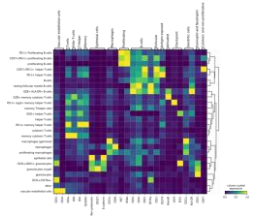
Machine Driven Clustering



Cell Neighborhoods

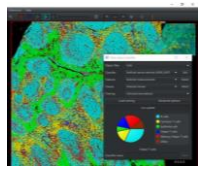


Bioinformatics Driven



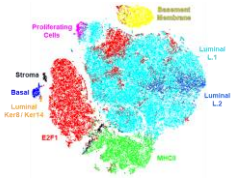
TRANSLATIONAL

User Guided AI



Margin Analysis

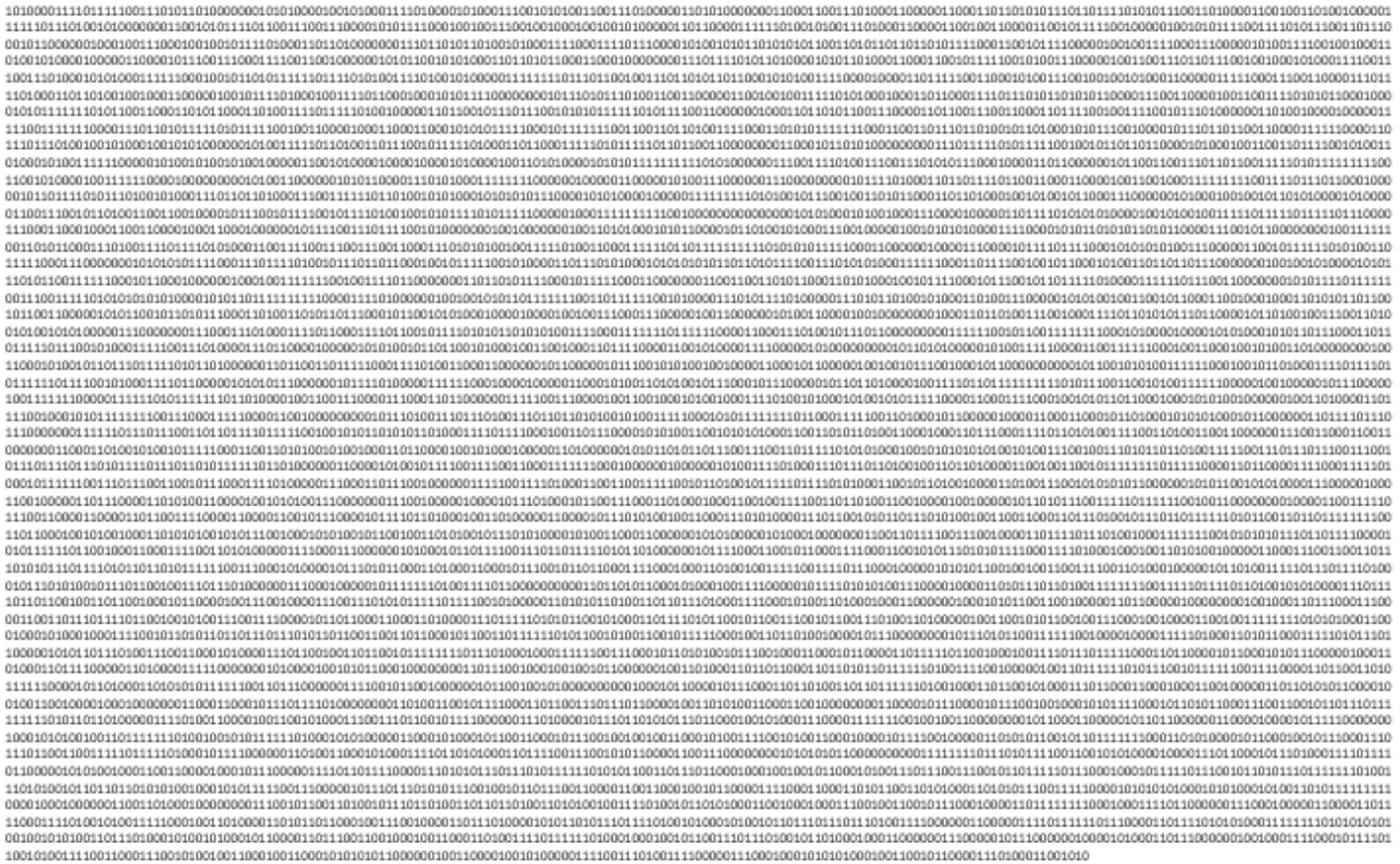
Pathology Driven



Simplified On-Instrument Image Processing & File Compression

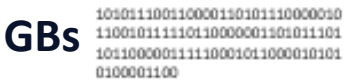
Standardized & Compressed Files, Without Data Compromise, Allow for Flexible Data Transfer

TBs



QPTIFF

GBs



Akoya's proprietary file compression algorithm

Deep Spatial Phenotyping With Flexible Data Transfer

100+ Plex Protein Whole-Slide Dataset

Human Tonsil Tissue (FFPE)

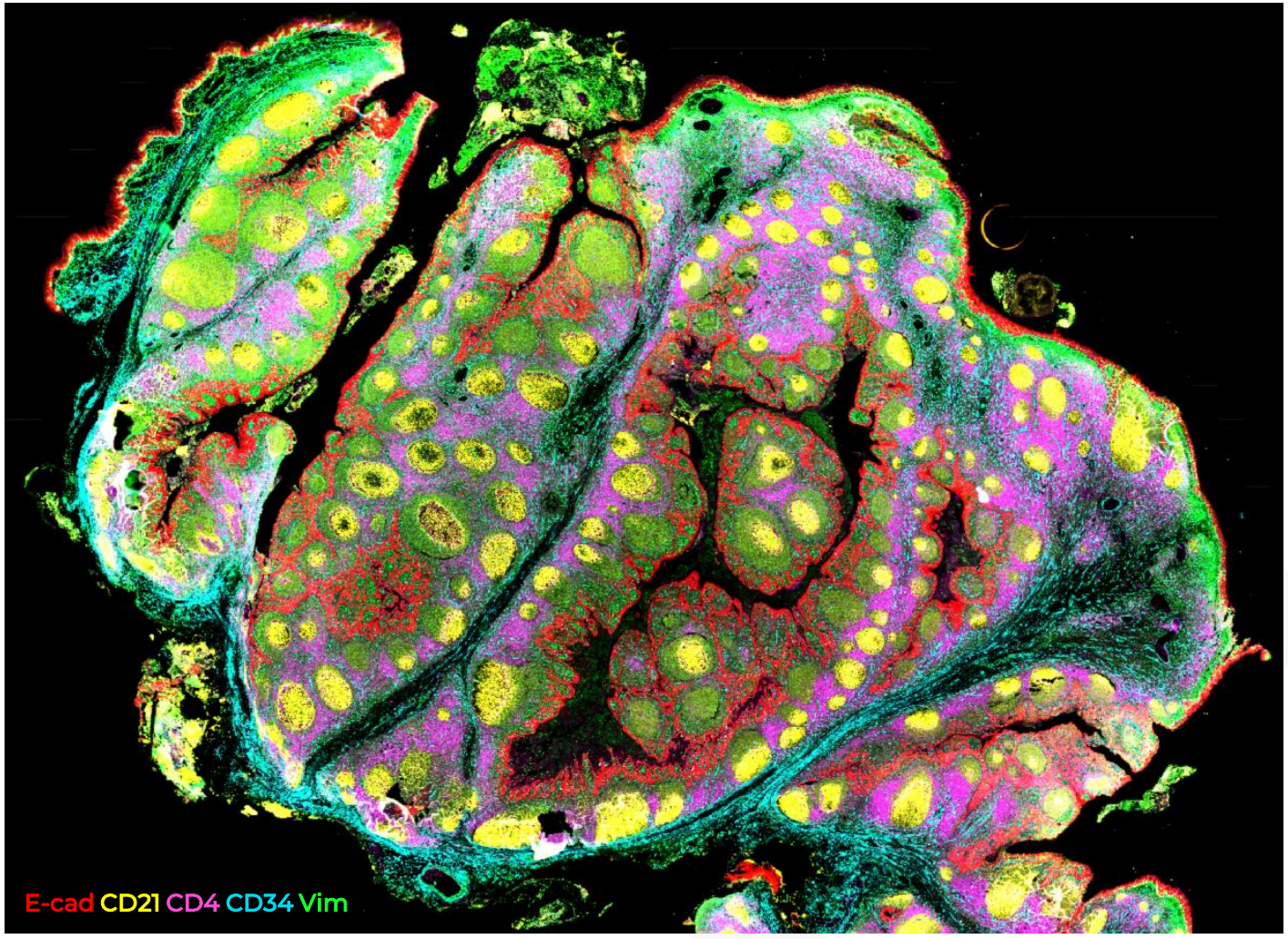
Single Sample

Whole Slide

100+ Proteins

0.5 TB
Raw Data

45 GB
QPTIFF



See https://www.akoyabio.com/wp-content/uploads/2022/04/Akoya_Bio_AACR-2022_100-Plex_Poster.pdf

Data Analysis Ecosystem Across Akoya's Workflows

Flexible Open Source

QuPath

Machine Learning & AI

PathAI VISIOPHARM® indica labs HALO QUANTITATIVE PATHOLOGY

Powerful High-Plex Analysis in the Cloud

ENABLE

Leading Analysis Service Providers

OracleBio

Data standardization enables a growing software ecosystem

Accessibility to cutting-edge analysis

Software partnerships provide economical, flexible & **COMPREHENSIVE** data analysis solutions

Evolving to Realize Our Clinical Aspirations

Commercial

From life sciences tools company to a medical company

Product

From imaging platform to diagnostic platform

Market

From scientist to clinician

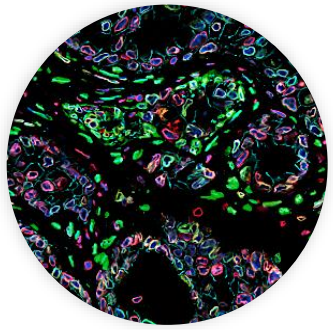
OncoSignature® CDx - New Era of Precision Medicine

First-of-its-kind Spatial Signature CDx Assay to Identify Patients for a Targeted Oncology Agent

AKOYA
ADVANCED BIOPHARMA SOLUTIONS (ABS)

Acrivon Therapeutics

CDx assay developed on PhenoImager HT



OncoSignature® test, a spatial signature CDx assay

Patient screened using OncoSignature® test to identify responders to ACR-368

Pending FDA approval, results of OncoSignature® test used to assign therapy

Akoya & Acrivon will co-develop, validate & **EXCLUSIVELY** commercialize the OncoSignature® test

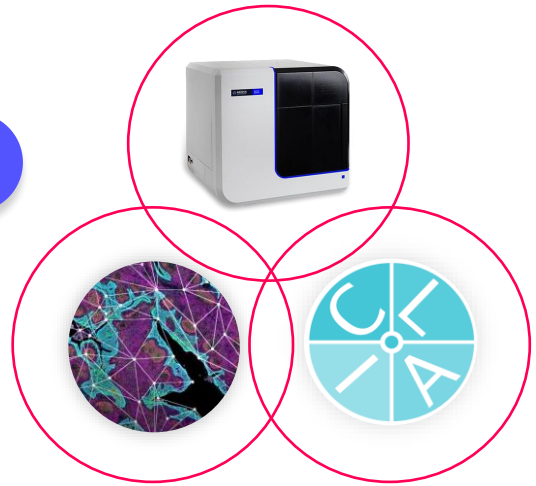
Partnering to Accelerate Clinical Spatial Biology Adoption

End-to-End Commercial Workflow - Reagents, Staining, Imaging, Analysis & Services

Agilent

- IVD approved workflow
- Established market leader in I/O CDx
- Strong network of pharma partners

AKOYA BIOSCIENCES®



- Industry leading multi-plex imager
- Translational and clinical multiplexing expertise
- CLIA lab capabilities

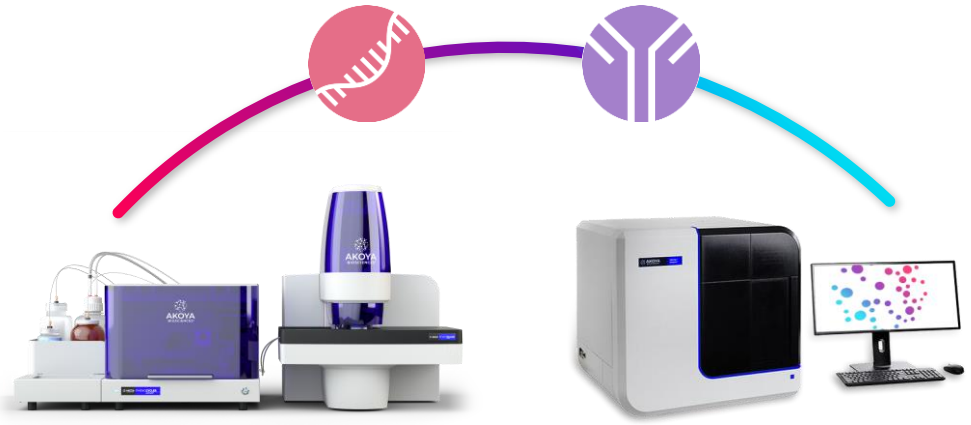
- **Combined strength** to catalyze deployment of multiplex tissue-based biomarkers for the benefit of biopharma and CROs to meet future diagnostic needs
- **Singular workflow** with products & services for development of mIHC & mIF assays

Akoya's Strategic Priorities

Drive Workflow Improvements & Success in Translational Market Guides Clinical Success

Accelerate Pull Through

- Expand menu of applications
- Platform improvements drive throughput
- Streamline data analysis & time to answer



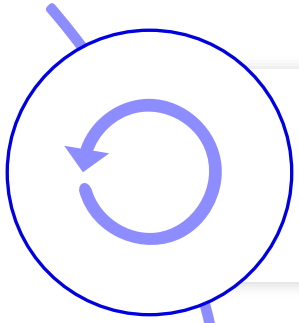
Accelerate Clinical Journey

- Drive translational adoption – leveraging CLIA lab & established regulatory standards
- Deliver on the Acrivon CDx
- Expand on high value partnerships

Financial Overview

Q4 2022 Estimated Revenue Range: **$20.7 – 21.2 million,** *28 – 30% y/y growth*

FY 2022 Estimated Revenue Range: **$74.3 – 74.8 million,** *35 – 36% y/y growth*



Recurring revenue model

Recurring reagent revenue from global installed base
Expanding lab services with key biopharma partners

Consistent growth profile

Ahead of consensus every quarter since IPO
Increasing menu content, pull through & clinical partnerships

Well-capitalized to drive growth with path to profitability

Driving growth across discovery, translational & clinical markets
$82 million of cash at the end of Q3 ‘22 with path to profitability by ‘25

Catalyzing Discovery and Improving Patient Care

AKOYA BIOSCIENCES®