

# Advancing the Next Generation of Cell Analysis

September 2021

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## **Cytek is Becoming the Premier Cell Analysis Company**



**Novel, patented FSP platform** utilizes the full spectrum of fluorescent signatures to deliver high-resolution, high-content and high-sensitivity cell analysis



Highly intuitive, integrated workflow solutions driving strong adoption with **over 850 instruments placed** since commercial launch in 2017



Validated platform with over 270 peer-reviewed publications, which continues to accelerate alongside growing applications



Delivering **strong revenue growth of 59% YoY** for the second quarter of 2021



Potential utility across a myriad of research and clinical applications could allow Cytek to access the broader \$23Bn cell analysis market<sup>1</sup>



Comprehensive suite of solutions expands customer base and diversification, and provides **recurring revenue opportunity** 



#### **Cytek's Leadership Team**



Wenbin Jiang, Ph.D. Chief Executive Officer



Patrik Jeanmonod Chief Financial Officer



Ming Yan, Ph.D. Chief Technology Officer



Allen Poirson, Ph.D. SVP, Marketing and Corporate Development

SONY Biotechnology



Valerie Barnett General Counsel

Dermira<sup>®</sup> FLUIDIGM<sup>®</sup> WILSON SONSINI



Mark Edinger VP, Scientific Affairs BD Q<sup>2</sup> Solutions



Maria Jaimes, M.D. VP, Applications



**Ray Lannigan** VP, Global Sales & Service

🍪 BD



Ken Riley General Manager Melik Ulusu VP, Operations & Integrated Supply Chain



#### Investing to Capture the Cell Analysis Opportunity



To better understand our immune system, with its large and complex network of different cells and their sub-populations, there has been a growing need for higher complexity cell analysis experiments and assays to analyze MORE cell populations together in a single tube of sample

#### MORE fluorescent tagged biomarkers provided by reagent vendors to identify cell populations

#### **MORE lasers and detectors**

provided by instrument manufacturers to measure these fluorescent biomarkers

#### We Provide an End-to-End Platform of FSP Solutions





#### Strategy to Drive Innovation in the Cell Analysis Market



Becoming a Comprehensive Solutions Provider and Driving Innovation in Cell Analysis

- Continue facilitating technical innovation in cell analysis
- Broad application development across life sciences, and healthcare more broadly:
  - Discovery, translational and clinical research
  - Clinical diagnostics



## **Our FSP Platform Allows Us to Address the Broader Cell Analysis Market**



#### \$23B Long-Term TAM (Total Cell Analysis Market in 2024)





\$1.3B

Target

ID

\$1.1B

Cell

Structure

## Advancing Cell Analysis with Our Unique FSP Technology



Aurora Full Spectrum Unmixing CD3 FITC NK T cells CD8 APC CD56 Alexa 647 CD56 Alexa 647

APC

Alexa Fluor 647

Our FSP platform was purposebuilt to advance the next generation of cell analysis by delivering deep insights, high throughputs and ease of use

FSP technology enables high sensitivity and high throughput without compromising data quality

Allows use of many dyes simultaneously with optimal resolution, which is not possible with conventional cytometers

FSP is able to extract autofluorescence to enhance resolution



#### **Our FSP Technology is Powered by Innovative Designs**





The fluorescence spectrum from each laser source is collected from multiple laser excitation

- B The fluorescence from each laser source is collected by each corresponding detector array module
  - Use of APD detectors maximizes sensitivity and enables broad wavelength responses
  - The combination of our patented optical design with APD detectors yields highresolution data at an optimized signal-to-noise ratio



## **Benefits of Our FSP Platform**

Ultra-sensitive

Resolves the most challenging cell populations



#### Deep, high-integrity content

Highly complex assays through access to 40 different colors in a single tube



#### Flexible and compatible Single configuration across a wide range of reagents and applications



#### **Efficient and compact**

Saves time and money while maintaining industry-leading performance



#### Integrated and intuitive

Fully integrated workflows with end-to-end solutions



#### **Cytek's Core Instruments: Aurora and Northern Lights**



#### Newly Launched: Aurora Cell Sorter Overview



Aurora Cell Sorter Shipped June 2021

First highly flexible, intuitive and ultra-sensitive cell sorter that leverages the detection and sensitivity capabilities of our FSP technology to isolate living cell populations from lower to higher complexity panels beyond 40 biomarkers

#### Unique

- Accommodates the same number of parameters with the same sensitivity as the Aurora system
- Able to isolate living cell populations from lower to higher complexity panels beyond 40 biomarkers
- Ability to easily transfer panels from Aurora, as well as other or conventional instruments, to sorter
- Easy integration for downstream analysis (e.g., genomics and proteomics)

#### Differentiated

 Can analyze and sort using higher complexity panels, in addition to ability to isolate living cell populations

#### Sustainable

- Higher complexity spectral panels cannot be run on a conventional sorter
- Cytek sorter can also be used to sort panels from conventional analyzers



## Cytek' FSP Platform versus Other Technologies

		Conventional Flow Cytometry	Spectral Flow Cytometry	Mass Cytometry	
<b>Biomarkers / Parameters</b> (>40 biomarkers) <sup>1</sup>	$\checkmark$	×	×	$\checkmark$	
<b>Sensitivity</b> (nanoparticle detection)	✓	✓	×	×	
<b>Throughput</b> (>30K cell/second)	✓	✓	$\checkmark$	×	
<b>Footprint</b> (<150K cm <sup>3</sup> )	✓	✓	×	×	
Sorting Capability	✓	✓	×	×	
Cost : Performance <sup>2</sup>	✓	×	×	×	

1. Based on peer-reviewed publications

2. Cost-to-Performance reflects performance based on accessible biomarkers, sensitivity, throughput and sorting capabilities, relative to costs associated with instruments, consumables, time, labor and ability to upgrade over time



## **Our FSP Technology Provides a Significant Reagents Opportunity**

- Cytek developed a set of spectral unique dyes based on full spectrum cytometry
  - About 20 cFluor dyes are identified and several have been commercialized
  - Additionally, we market a cFluor immunoprofiling kit with 14 colors
- Fluorescence spectrum of Cytek cFluor dyes can be stored in the instruments for ease of use and bundling with instruments



Laser	cFluor		
Violet	cFluor V420		
Violet	cFluor V450		
Violet	cFluor V500		
Violet	cFluor V570		
Violet	cFluor V620		
Blue	cFluor B518		
Blue	cFluor B532		
Blue	cFluor B548		
Blue	cFluor BYG575		
Blue	cFluor BYG610		
Blue	cFluor BYG628		
Blue	cFluor BYG666		
Blue	cFluor BYG676		
Blue	cFluor BYG680		
Blue	cFluor BYG710		
Blue	cFluor BYG781		
Yellow Green	cFluor YG584		
Red	cFluor R659		
Red	cFluor R667		
Red	cFluor R685		
Red	cFluor R720		
Red	cFluor R780		
Red	cFluor R810		
Violet	ViaViolet		
Red	ViaRed		



#### **Reagents & Kits Portfolio**



Commercially Launched October 2020

Our reagents are fluorochrome conjugated antibodies used to identify cells of interest

Simplifies the workflow from sample preparation to data analysis

Our 14-color cFluor immunoprofiling kit and 40-color optimized multicolor immunofluorescence panel provide users with ready-to-use protocols and antibodies

Class 1 single-color reagents currently sold in China with clinical studies underway for 6-color TNBK reagents for potential Class 3 registration



#### Web-Based Tool Developed to Help Customers to Advance HD Cell Analysis



View and overlay full spectrum signatures Compare and evaluate fluorochrome combinations

Create SpectroFlo experiment templates



## **End-to-End FSP Workflow**



Standardized, fully-integrated FSP workflow solution, incorporating instruments, reagents, software and services to provide a seamless end-to-end experience, increasing usage of high-dimensional cell analysis techniques by more end-users and accelerating market adoption



## **Development Strategy for Driving New Applications via Reagents**

Work with industry partners / KOLs to potentially codevelop new fluorophores and antibody conjugates with unique spectral characteristics



Evaluate unique fluorophore prototypes

to consider future development of additional products or processes



Collaborations with Clinical Laboratories to design and study potential clinical diagnostics

#### Identify and develop a larger range of conjugated antibodies

that can be combined across each laser to increase the number of colors that can be effectively used together, with optimal resolution, in laboratory research and clinical diagnostics



Leukemia & Lymphoma Diagnosis



Minimal Residual Disease Monitoring





## Comparable performance between 3-tube assays with CFC and 1-tube assays with NL-CLC

New diagnosis method is discovered when multiple tubes are combined



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#### First 40-color Optimized Multicolor Immunofluorescence Panel



First publication to go beyond 28-color fluorescence flow cytometry, exceeding OMIP panels published using mass cytometry

40-color panel covering almost the entire cellular composition of the human peripheral immune system with a single tube

Higher throughput, robust population resolution and lower cost



#### Validation as Publications have Increased Significantly Over Time





#### **Growing Market Needs Require Advanced Cell Analysis**





Market is characterized by large, legacy players and a dearth of innovation, thus there is a large appetite for novel solutions

Opportunity to Innovate a Market Suffering from Inertia



The diagnostics sector has enjoyed a period of significant innovation, particularly within the fields of genomics and proteomics

> Clinical Diagnostics are Changing

Drive adoption and application development of Cytek's FSP platform

## **Cytek's Value Proposition to the Clinical Market**



NL-CLC

- Performs high-level multi-parameter flow cytometry immunophenotyping on small sample amounts
- Accurately detects, diagnoses and monitors immune cell disorders with very low levels of key biomarkers

#### **Benefits**

- Allows for more informative antibodies in one tube
- Minimizes use of redundant reagents
- Optimizes use of smaller amounts of patient specimen
- Identifies small populations of abnormal cells
- Improves overall laboratory efficiency
- Lowers costs

## Becoming a Solutions Provider for the Clinical Market







Customized Workflow Solutions



Automated Analysis





## The Power of "AND"

Flow cytometry is often used with downstream or companion technologies





## **Cytek is Transforming into a Full Solutions Provider**



1. 2024 market projection estimate

2. We define Adjusted EBITDA as net income (loss) adjusted for interest expense, interest income, other income (expense), net, provision for (benefit from) income taxes, depreciation and amortization, legal settlement expenses and stock-based compensation expenses. Adj. EBITDA Margin is on a percentage of revenue basis.

3. Represents longer term financial objectives of the Company and does not constitute estimates of the Company's future performance, financial, or otherwise. There is no assurance that the Company will ever achieve any of these objectives. See Special Note Regarding Forward-Looking Statements



## **Global Scale and Reach with Diversified Revenue Mix**











## **Historical Revenue and Gross Margin**

(\$ in millions)



#### Annual Revenue (\$)<sup>1</sup> / Gross Margin (%)



\$92.8

\$7.6

56%

\$85.2

#### **Key Improvement Drivers**





#### **Advancing the Next Generation of Cell Analysis Tools**

**High-Resolution, High-Content and High-Sensitivity** 

**Entire Spectrum of a Fluorescent Signal** 

**Integrated Platform** 

**Over 270 Peer-Reviewed Articles** 

**Global Scale and Reach** 

Flexible, Easy-to-Use and Reconfigurable Lasers

**Differentiated, Cost-Effective and High Performance**