T2 Biosystems

(NASDAQ: TTOO)

May 2020

T2Biosystems®

Forward-Looking Statements

This presentation contains forward-looking statements. Such statements reflect the current views of senior management of T2 Biosystems, Inc. ("we", "us", "our", "T2", "T2 Biosystems" or the "Company") and include those about T2's goals, strategies, plans, objectives, prospects, milestones, future operations, business and industry, anticipated product benefits, future events and conditions and potential scenarios. Such statements and those that include the words “expect,” “intend,” “plan,” “believe,” “project,” “forecast,” “estimate,” “may,” “should,” “anticipate” and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise. Forward-looking statements address matters that involve risks and uncertainties. Each forward-looking statement is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statement, including, for example: (i) our status as an early commercial-stage company and expectation to incur losses in the future; (ii) our ability to obtain marketing authorization from the FDA or regulatory clearance for additional product candidates in the United States or abroad; (iii) the market acceptance of our technology; (iv) our ability to timely and successfully develop and commercialize existing and future product candidates; (v) our lengthy and variable sales cycle and lack of sales history; (vi) our ability to successfully manage growth; (vii) federal, state and foreign regulatory requirements; (viii) our uncertain future capital needs and ability to raise future capital; (ix) dependence on third parties; (x) recruiting, training and retaining key personnel; (xi) competitive factors; (xii) manufacturing and other product risks; (xii) risks related to intellectual property; and (xiii) other risk factors included in our annual report on form 10-K filed with the Securities and Exchange Commission (SEC) on March 14, 2019 and other documents we file with the SEC from time to time. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. The statements made herein speak only as of the date of this presentation. We do not undertake, and specifically disclaim, any obligation to update any forward-looking statements contained in this presentation.

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Investment Highlights

A platform technology with multiple, billion-dollar franchise opportunities

T2 Platform

Innovative technology platform

First-in-Class Dx

Provide species-specific results, direct from whole blood, in 3 to 5 hours

Large Market

$2B+ initial market potential

Reimbursement

Covered by existing reimbursement codes

Robust Pipeline

A new generation of diagnostics

Execution

Focused U.S. Commercial effort

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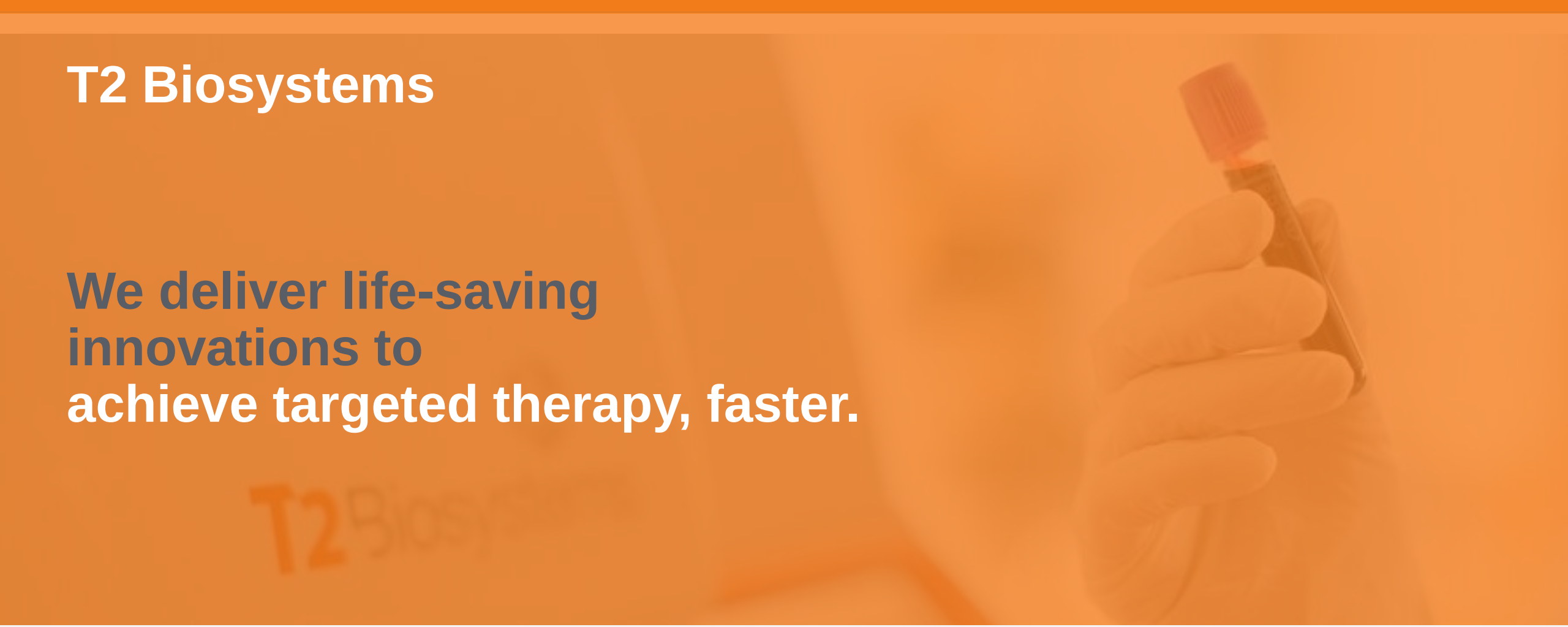

We deliver life-saving innovations to achieve targeted therapy, faster.

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Sepsis is a Global Problem with Fatal Consequences

An estimated 11 million people worldwide die annually with sepsis, more than all cancers combined

Sepsis contributes to

1 in 5 deaths

globally

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Rudd et al, (2020). Global, regional, and national sepsis incidence and mortality, 1990–2017: analysis for the Global Burden of Disease Study. The Lancet, VOLUME 395, ISSUE 10219, P200-211

T2Biosystems®

Sepsis Represents $41 Billion in U.S. Healthcare Costs

Claims more U.S. lives each year than the top three cancers combined: lung, colorectal, breast

Costs the U.S. healthcare system $41 billion annually[1]

Claims more lives each year than the three top cancers combined (lung, colorectal, breast)[2]

Causes the death of nearly 270,000 Americans annually[3]

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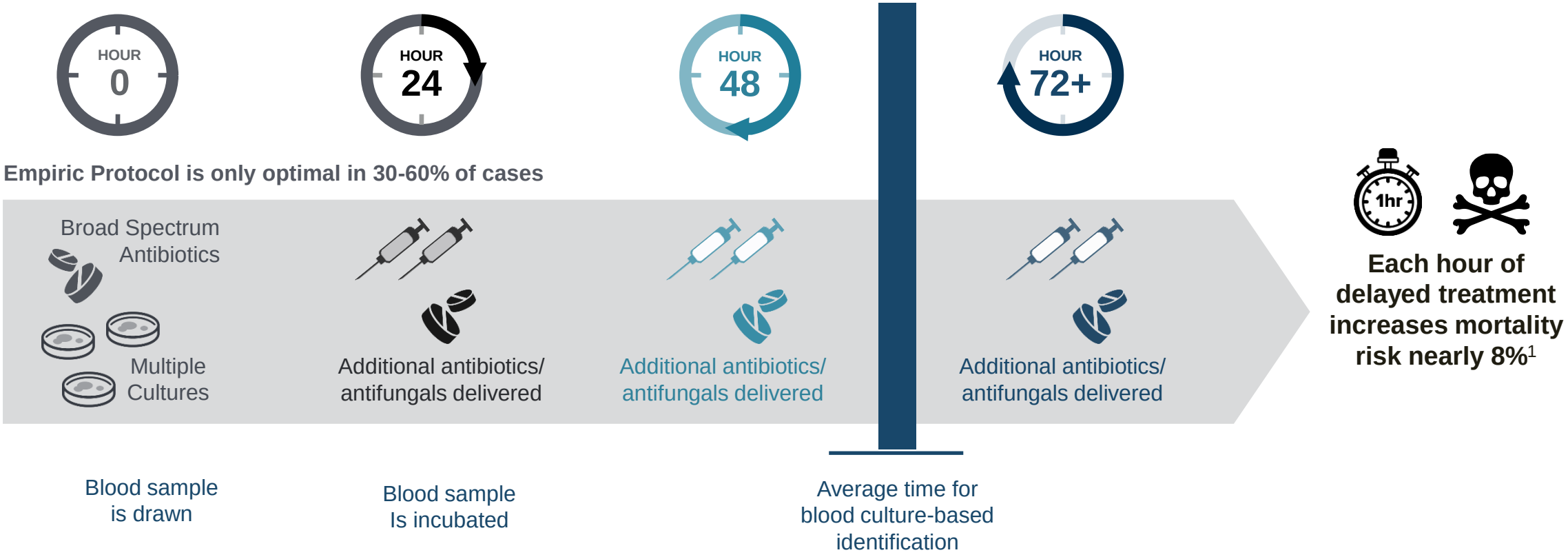
1. https://www.hhs.gov/about/news/2020/02/14/largest-study-sepsis-cases-among-medicare-beneficiaries-finds-significant-burden.html
2. National Institute of General Medical Sciences. National Institutes of Health. Sepsis fact sheet. 2014.
3. Centers for Disease Control and Prevention.

The Challenge of Detecting Sepsis-Causing Pathogens

The current standard is a race against time, relying on empiric probability-based protocols



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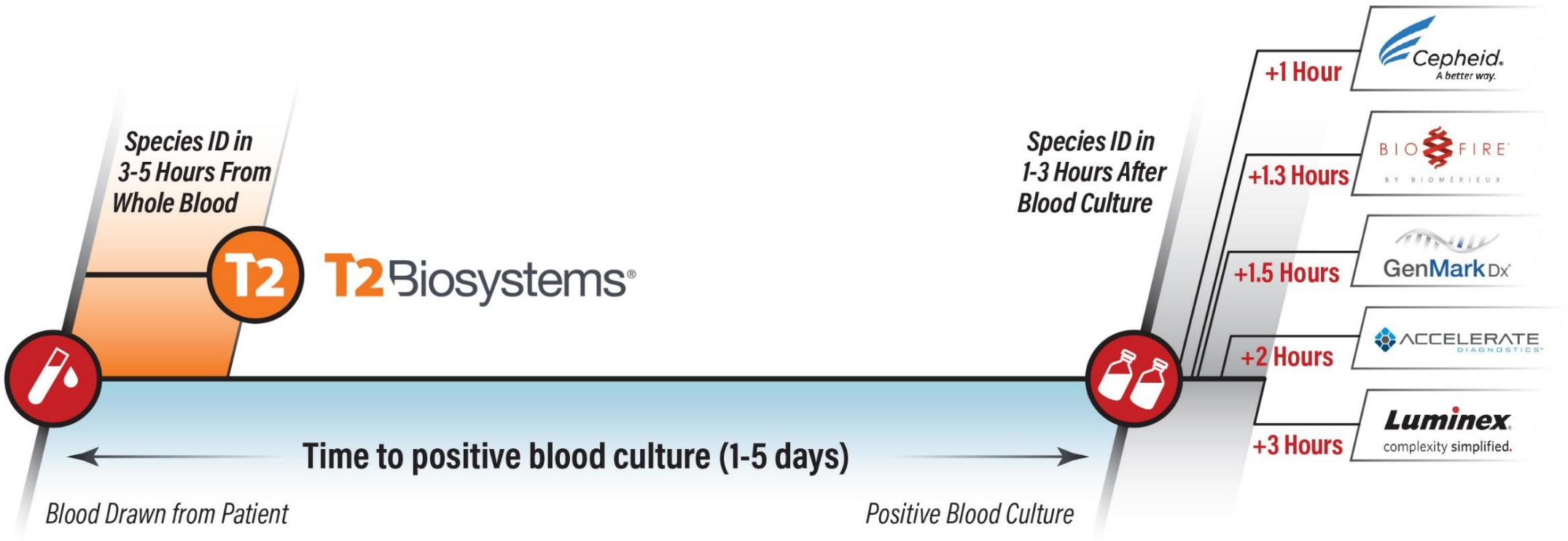
1. Kumar, A., Roberts, D., Wood, K.E., et al, (2006). Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. Critical care medicine, 34(6), 1589-1596.

Rapid Detection of Sepsis-Causing Pathogens is Critical

Enables targeted therapy within 3-5 hours of first blood-draw, often before the second dose of antibiotics is administered



T2 Biosystems provides species and resistance gene identification **directly from whole blood in 3-5 hours of the first blood draw**, often before the second dose of broad-spectrum antibiotics is delivered, enabling clinicians to achieve targeted therapy faster than the current standard of care.

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Our Comprehensive Product Portfolio is Simple to Use

Fully-automated T2Dx Instrument

- Fast: Results in 3-5 hours
- Easy: no sample preparation
- Sensitive: ~1 CFU/mL LoD

T2Candida®	T2Bacteria®	T2Resistance™
Sensitivity: 91.1%[1] Specificity: 99.4%[1]	Sensitivity: 95.4%[2] Specificity: 98.0%[2]	FDA Breakthrough Device CE Mark/RUO 2019
C. albicans *C. tropicalis* *C. parapsilosis* *C. krusei* *C. glabrata*	*E. faecium* *S. aureus* *K. pneumoniae* *P. aeruginosa* *E. coli*	*mecA/C* *vanA/B* CTXM-14/15 KPC OXA-48 Group NDM, VIM, IMP AmpC (CMY/DHA)
FDA-Cleared **CE-marked** 1-3 CFU/mL LoD	**FDA-Cleared** **CE-marked** 2-11 CFU/mL LoD	Available as RUO (US) FDA in process **CE-marked** 3-11 CFU/mL LoD

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1. Mylonakis, E., Clancy, C.J., Ostrosky-Zeichner, L., et al. (2015). Clinical Infectious Diseases
2. T2Bacteria Pivotal Clinical Study. This is a combination of samples run in both prospective and contrived arms of study. T2Bacteria showed an overall average sensitivity of 90% in the prospective arm of the study and the contrived arm an overall average PPA of 97%.

Growing Independent Support for T2 Technology

T2Bacteria represents a substantial clinical improvement over existing technologies[1]

Included in dozens of independent, real-world clinical case studies demonstrating clinical utility of T2Bacteria and T2Candida (www.t2biosystems.com)

U.S. Food & Drug Administration granted breakthrough device designation for T2Resistance™ Panel

U.S. Centers for Medicare & Medicaid Services established T2Bacteria® as first diagnostic product to gain incremental reimbursement through its New Technology Add-on Payment (NTAP)

U.S. Department of Health and Human Services (i.e., BARDA) awarded T2 Biosystems with up to $69M in milestone-based product development funding, among the largest grants awarded to a diagnostic company

Premier, Inc. (NASDAQ: PINC) awarded Breakthrough Technology contract to T2 Biosystems, providing access to ~4,000 Premier hospitals

Vizient, Inc. awarded Innovative Technology contract to T2 Biosystems, providing access to more than 50 percent of the nation's acute care hospitals, 95 percent of all academic medical centers and 20 percent of the country's ambulatory market

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1. United States CMS FY 2020 inpatient prospective system final rule

2020 Corporate Priorities

ACCELERATE SALES

Focus on U.S. market
Increase test utilization
Secure new T2Dx contracts

IMPROVE OPERATIONS

Reduce COGS
Reduce expenses
Update infrastructure

ADVANCE PIPELINE

Initiate T2Resistance FDA study
Advance expanded panel
Establish T2Lyme LDT

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1

ACCELERATE SALES

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Accelerating the Commercial Implementation Process

TARGETING

MESSAGING

IMPLEMENTATION

UTILIZATION

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Selected T2 Biosystems Customers

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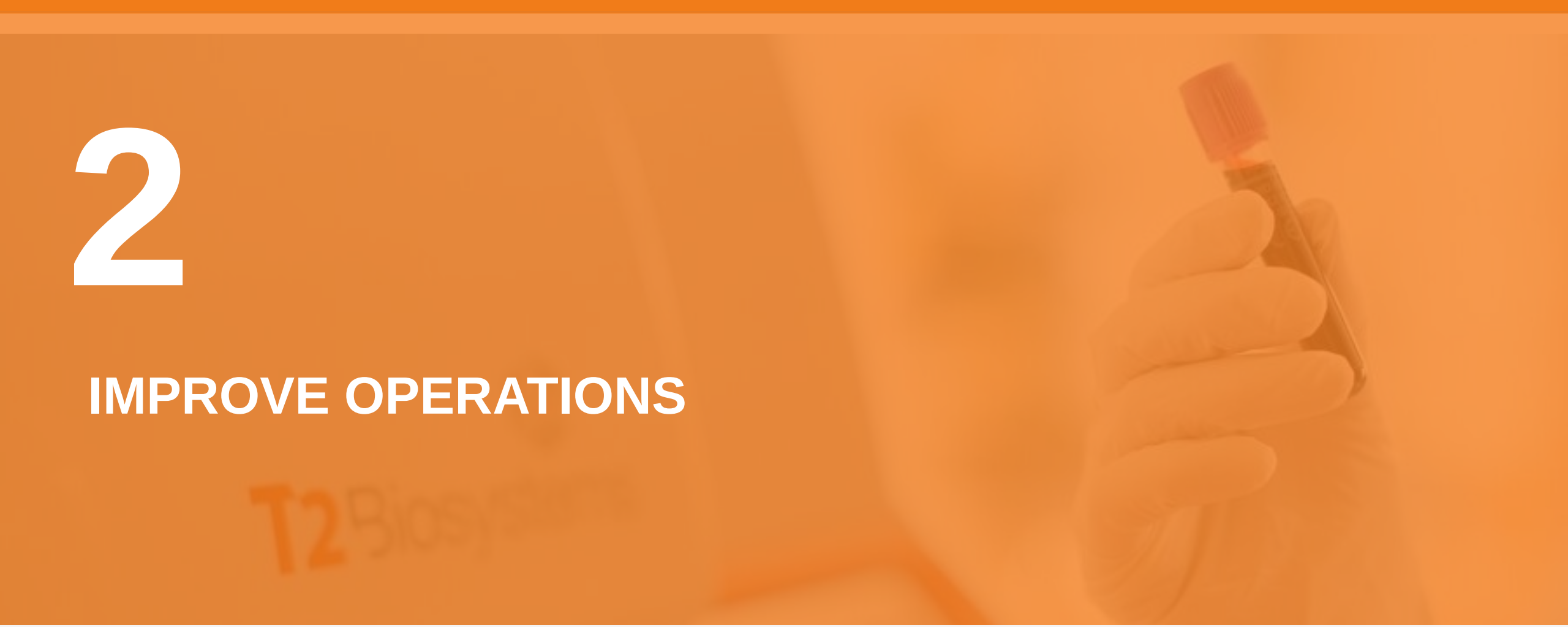
2

IMPROVE OPERATIONS



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T2 Operational Objectives

Continue to:

- Reduce cost of goods sold (COGS)
- Reduce operating expenses
- Update infrastructure to enhance operational efficiencies

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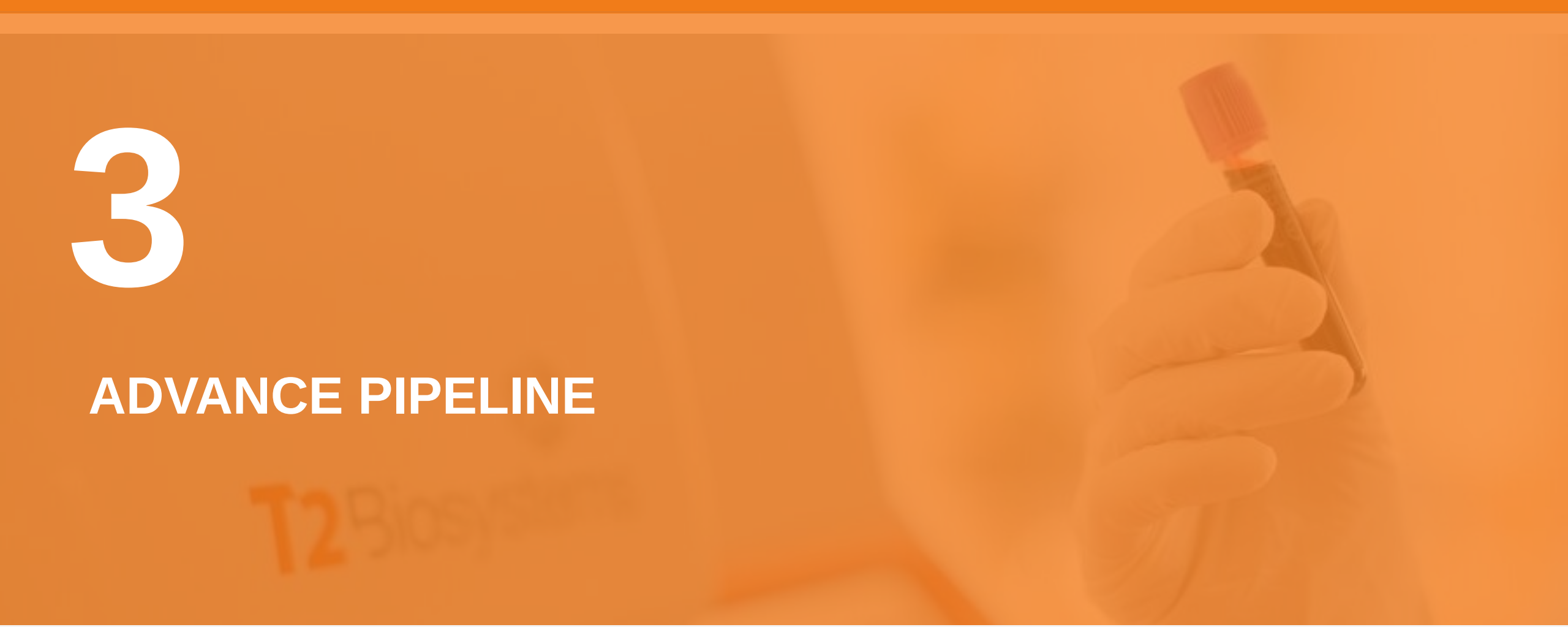
ADVANCE PIPELINE



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T2SARS-CoV-2™ Panel

Developing Molecular Diagnostic Test to be Run on T2Dx Instrument

Executed worldwide licensing agreement for assay design information with Hackensack Meridian Health's Center for Discovery and Innovation

In Development:

- Multiple swab types
- Multiple matrices
- Sample-to-answer
- High quality

Commercialize under FDA EUA guidelines as early as the end of 2Q 2020

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T2 Product Pipeline

Opportunity to leverage platform into new clinical markets

T2Cauris™ Panel

C. auris
C. duobushaemulonii
C. haemulonii

Method validated by CDC for patient swabs.

T2Resistance™

mecA/C
vanA/B
CTXM-14/15
KPC
OXA-48 Group
NDM, VIM, IMP
AmpC (CMY/DHA)

Powered by CARB-X

T2Lyme™

B. burgdorferi
B. afzelii
B. garinii
Borellia spp.

Biothreat Panel

B. anthracis
F. tularensis
Burkholderia spp.
Y. pestis
R. prowazekii
Toxin genes

Expanded Panel

99% of bloodborne bacterial infections

Pan-gram + / - results (detecting >250 species)

All bloodborne antibiotic resistant threats identified by CDC

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T2Resistance Panel

The first direct-from-blood detection of resistance markers

- Detection of 13 resistance genes from both Gram-positive and Gram-negative pathogens from a single patient blood sample, without the wait for blood culture, in 3-5 hours
- Covers the most clinically important genes, including several listed on the CDC Urgent Threat list for antibiotic resistance
- Utilizes the same T2Dx Instrument as the T2Bacteria and T2Candida Panels
- Developed with the help of an award from CARB-X (funded by BARDA), the Wellcome Trust, and the National Institute of Allergy and Infectious Diseases (NIAID); first CARB-X funded product launched
- Research use only (RUO) available as of 9/30/19
- CE-marked for clinical use outside U.S.

FDA Breakthrough Designation

- Granted “Breakthrough Device” designation by the FDA
- Allows T2 Biosystems to work closely with the FDA during the premarket review phase to ensure patients can have access to the benefits of this innovation as soon as possible

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Advancing T2 Platform with Multi-Year Government Contract[1]

Significant pipeline expansion enabled by milestone-based BARDA funding

Funds expansion of product portfolio from development through FDA submission for 3 panels, and…

Development of next-generation high-throughput instrument

Expanded Panel

- 99% of all bloodborne bacterial infections by means of ≥36 reported results
- Pan-Gram positive and pan-Gram negative results (detecting >250 species)
- All bloodborne antibiotic resistant threats identified by the CDC
- All from a single blood sample…

T2Resistance Panel

- Breakthrough device designation by FDA
- 13 antibiotic resistance genes from gram positive/negative pathogens

Biothreat Pathogens Panel

- First ever direct-from-blood panel for detection of biothreat pathogens
- *B. anthracis*, *F. tularensis*, *Burkholderia* spp., *Y. pestis*, *R. prowazekii*, and toxin genes

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1. Milestone-based contract of initial value of $6 million with a potential value of up to $69 million

T2Lyme Panel

Sensitivity greater than any existing Lyme tests[1,2]

- Discussions with multiple reference laboratories are underway for launching T2Lyme as a reference-lab LDT
- Data show that T2Lyme is >10 times more sensitive than existing molecular (PCR) Lyme tests, detecting more patients with early Lyme disease than existing molecular tests
- In a head-to-head comparison, T2Lyme has higher clinical sensitivity and accuracy than CDC recommended 2-tier test
- T2 Biosystems has conducted a multi-year pivotal study and partnered to generate a bio-bank of >300 clinical samples for clinical validation of the T2Lyme test

More than **3.4 million** diagnostics tests are performed for Lyme disease each year in the United States[3]

30K
Lyme Disease Cases Reported by CDC[4]

300K
Estimated Lyme Disease Patients[3,5]

>3.4M
Annual Diagnostic Tests[3]

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1. Snyder, J, Giese, H, Bandoski-Gralinski, C, et al. (2017). T2 Magnetic Resonance Assay-Based Direct Detection of Three Lyme Disease-Related Borrelia Species in Whole-Blood Samples. JCM August 2017 Volume 55 Issue 8, p. 2453-2461.
2. Andre, P., Smith, R., Damle, N., et al. (2018). A Prospective Clinical Evaluation of the T2Lyme®Diagnostic Demonstrated a High Positive Predictive Value for Borrelia Infection. 15th International Conference on Lyme Borreliosis and other Tick-Borne Diseases (ICLB). September 11-14, 2018 Atlanta Georgia.
3. Hinckley et al. Clin Infect Dis.
4. www.cdc.gov/lyme/stats/
5. Nelson et al. Emerging Infect Dis. 2015.

Financial Summary[1]

March 31, 2020		
Revenue	1Q20	$2.5M
	1Q19	$1.8M
Revenue Growth	YoY	43%
Product Revenue	1Q20	$1.0M
	1Q19	$1.3M
Cash Burn[2]	1Q20	$14.8M
Cash[3]	3/31/2020	$36.5M
Common Shares Outstanding	1Q20	119.2M

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1. All amounts are rounded to the nearest hundred thousand.
2. Excludes $40.1 M raised through sale of 68.2M shares of common stock under the ATM facility in 1Q20.
3. Includes $180k restricted cash.