Corporate Presentation

XXXXXXXX HEALTHCARE CONFERENCE

(NASDAQ: TTOO)

January 2020

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.

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

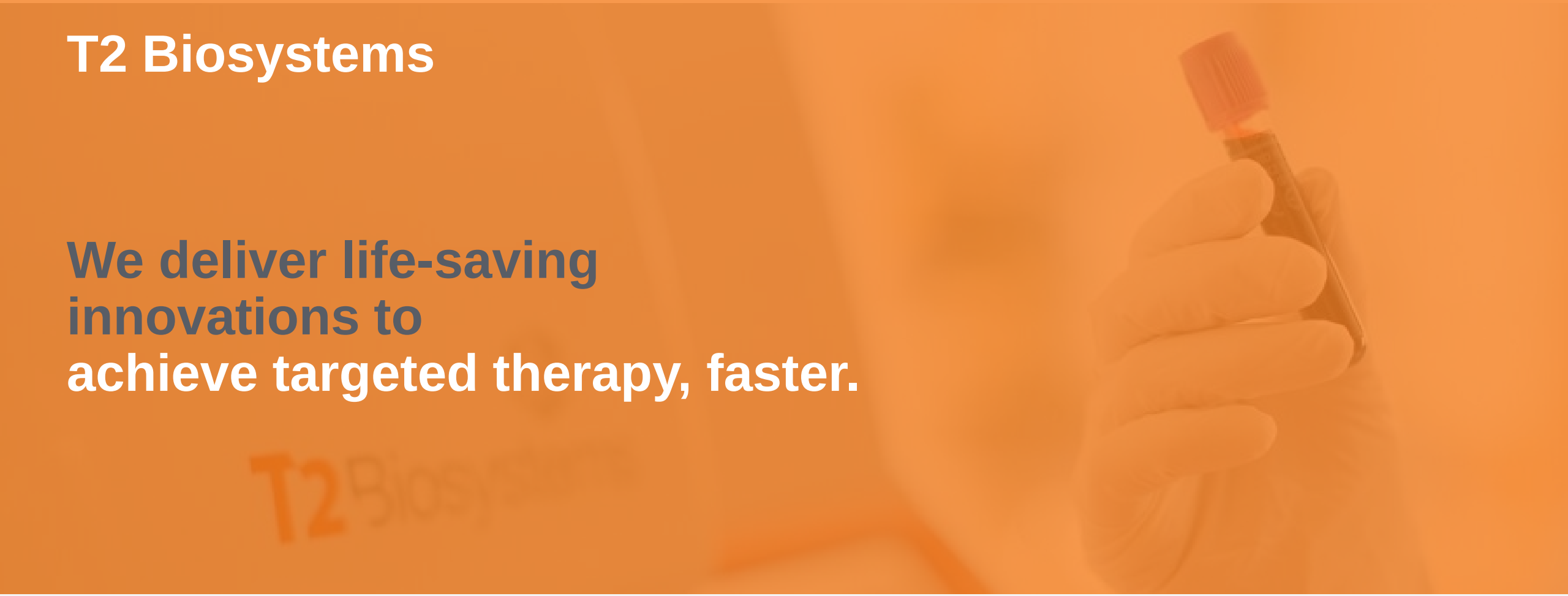
Robust Pipeline

A new generation of diagnostics

Execution

Focused U.S. Commercial effort

T2 Biosystems



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

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

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

Sepsis Represents $27 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 $27 billion annually[1,2]

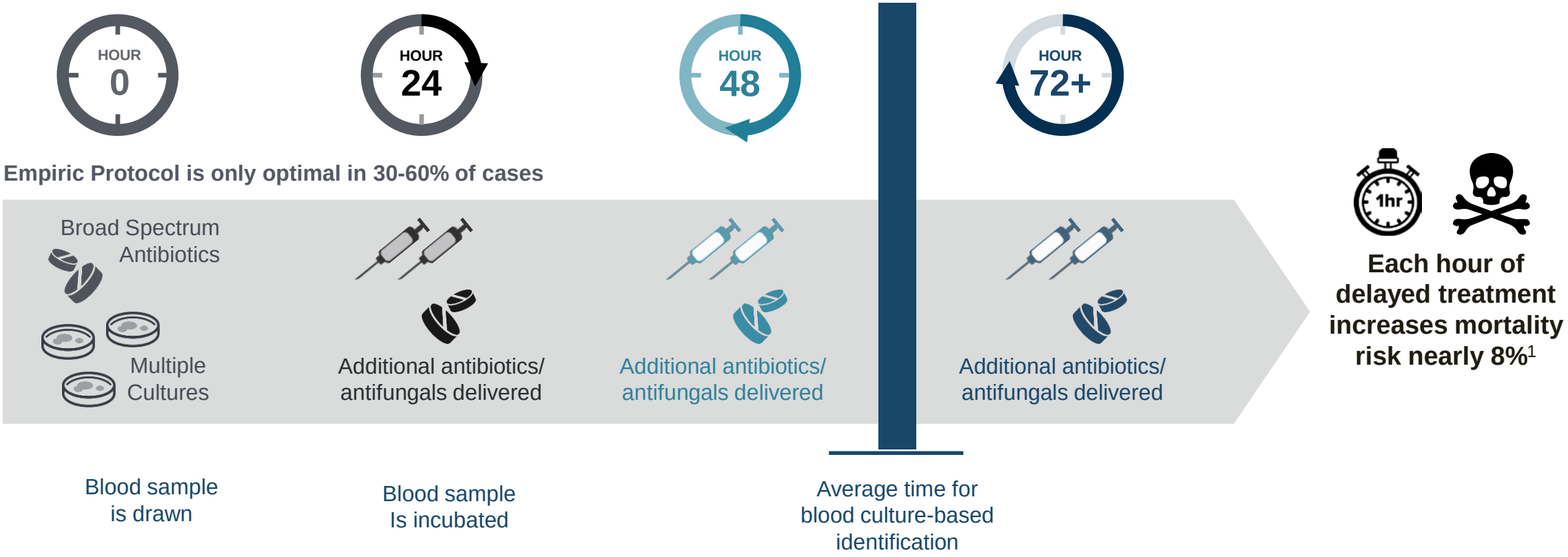
Claims more lives each year than the three top cancers combined (lung, colorectal, breast)[3]

Causes the death of nearly 270,000 Americans annually[4]

1. Torio, C. M. and Moore, B. J. (2016). Statistical Brief# 204. Healthcare Cost and Utilization Project (HCUP). May.
2. McDermott, K. W., Elixhauser, A., Sun, R. (2017). Statistical Brief# 225. Healthcare Cost and Utilization Project (HCUP). June.
3. National Institute of General Medical Sciences. National Institutes of Health. Sepsis fact sheet. 2014.
4. Centers for Disease Control and Prevention.

The Challenge of Detecting Sepsis-Causing Pathogens

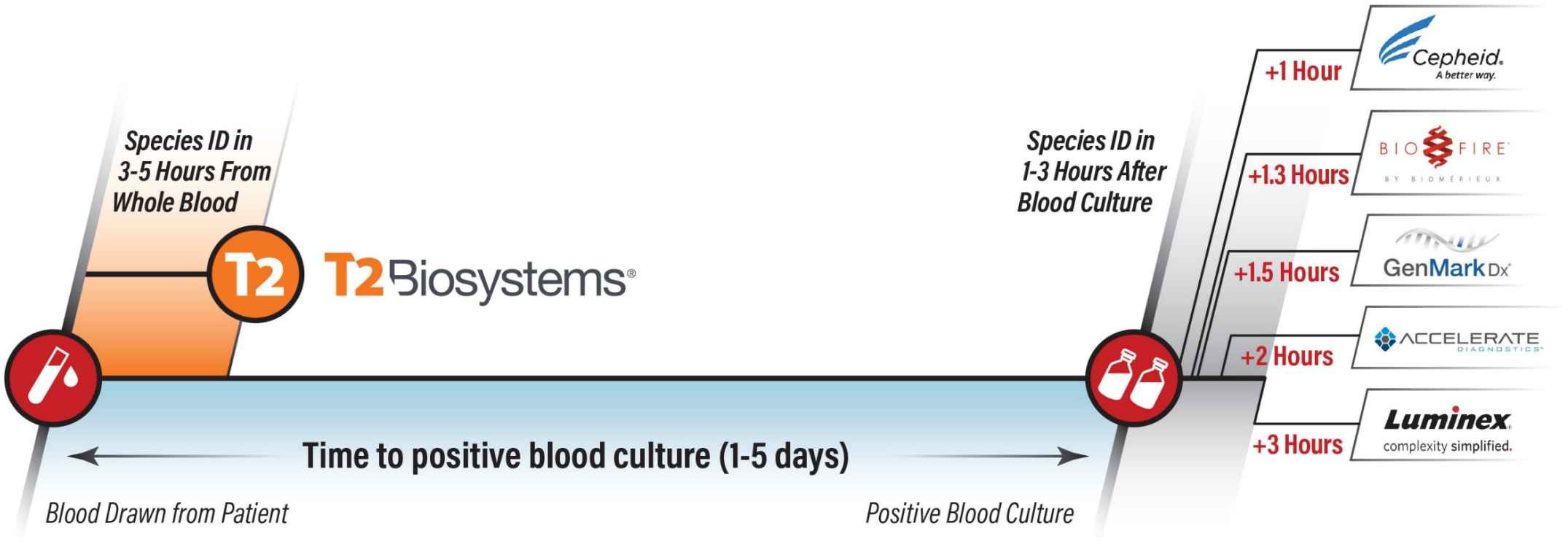
The current standard is a race against time, relying on empiric probability-based protocols



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

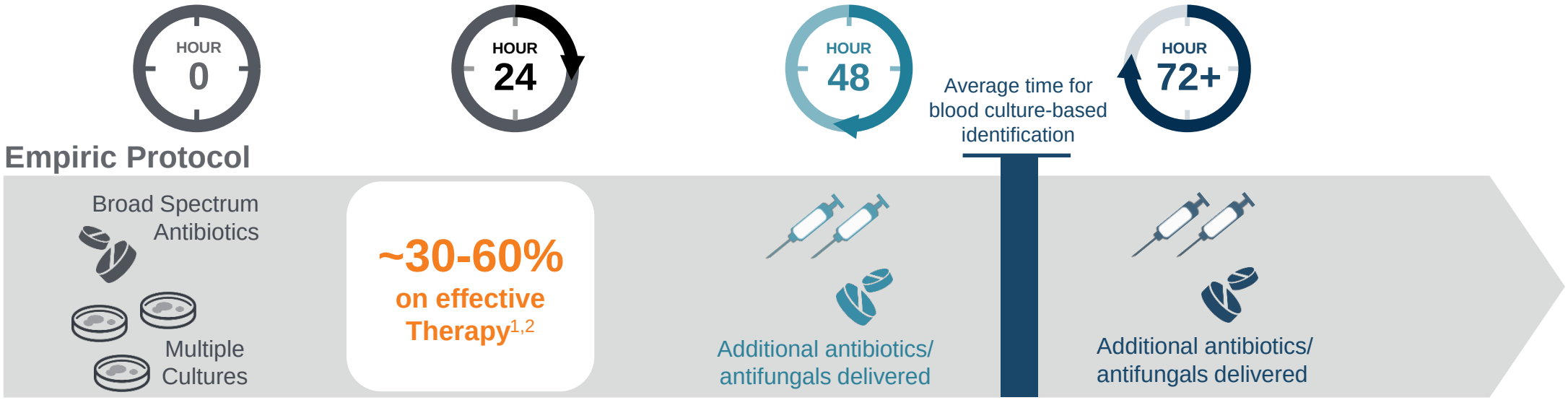
T2 offers the only FDA-approved direct-from-blood system for rapid species identification

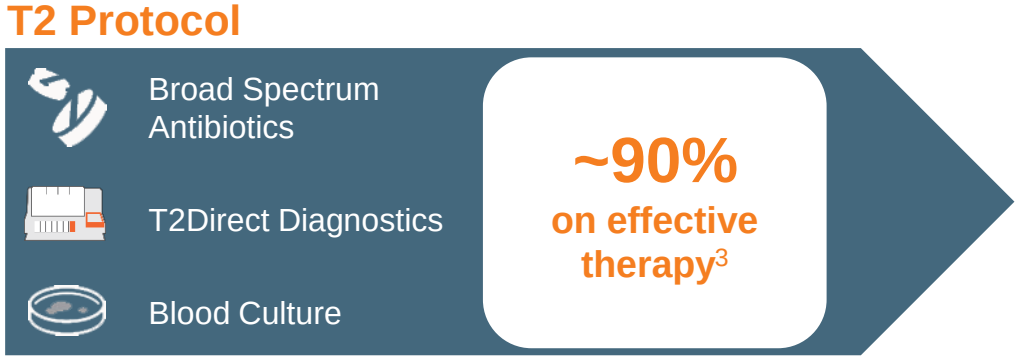


T2 Biosystems provides species and resistance gene identification **directly from whole blood in 3-5 hours of the first blood draw**, often before the second dose of broad-spectrum antibiotics is delivered, enabling clinicians to achieve targeted therapy faster than the current standard of care.

The T2 Protocol Enables Targeted Therapy, Faster

Approximately 90% of patients can receive effective therapy within hours, not days





Which translates to…

...in the US alone[4]

1.T2Bacteria Clinical Pivotal Trial Data. 2. Buehler, S. S., Madison, B., Snyder, S. R., et al. (2016). Effectiveness of practices to increase timeliness of providing targeted therapy for inpatients with bloodstream infections: a laboratory medicine best practices systematic review and meta-analysis. Clinical microbiology reviews, 29(1), 59-103.3. Kumar, A., Ellis, P., Arabi, Y., et al. (2009). Initiation of inappropriate antimicrobial therapy results in a fivefold reduction of survival in human septic shock. CHEST Journal, 136(5), 1237-1248. 4. Represents the potential healthcare savings and lives saved using the T2Direct Diagnostic to test high risk patients based on assumed levels of total annual patients assuming all high-risk sepsis patients are tested with T2Direct Diagnostics and assuming (i) 90% of high risk patients receive appropriate therapy within hours of the presentation of symptoms, (ii) a 50% mortality rate reduction for patients who receive rapid appropriate therapy, and (iii) that each new detected patient saves $22,800. This slide contains T2's estimates, which are not based on historical results and constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statement.

T2Biosystems

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%[2] Specificity: 99.4%[2]	Sensitivity: 95.4%[1] Specificity: 98.0%[1]	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

1. 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%.
2. Mylonakis, E., Clancy, C.J., Ostrosky-Zeichner, L., et al. (2015). Clinical Infectious Diseases

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

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

2020 Corporate Priorities

ACCELERATE SALES

Focus on US market
Increase test utilization
Secure new T2Dx contracts

ADVANCE PIPELINE

Initiate T2Resistance FDA study
Advance expanded panel
Establish T2Lyme LDT

ENHANCE OPERATIONS

Reduce COGS
Scale production
Update infrastructure

1

ACCELERATE SALES

Accelerating the Commercial Implementation Process

TARGETING

MESSAGING

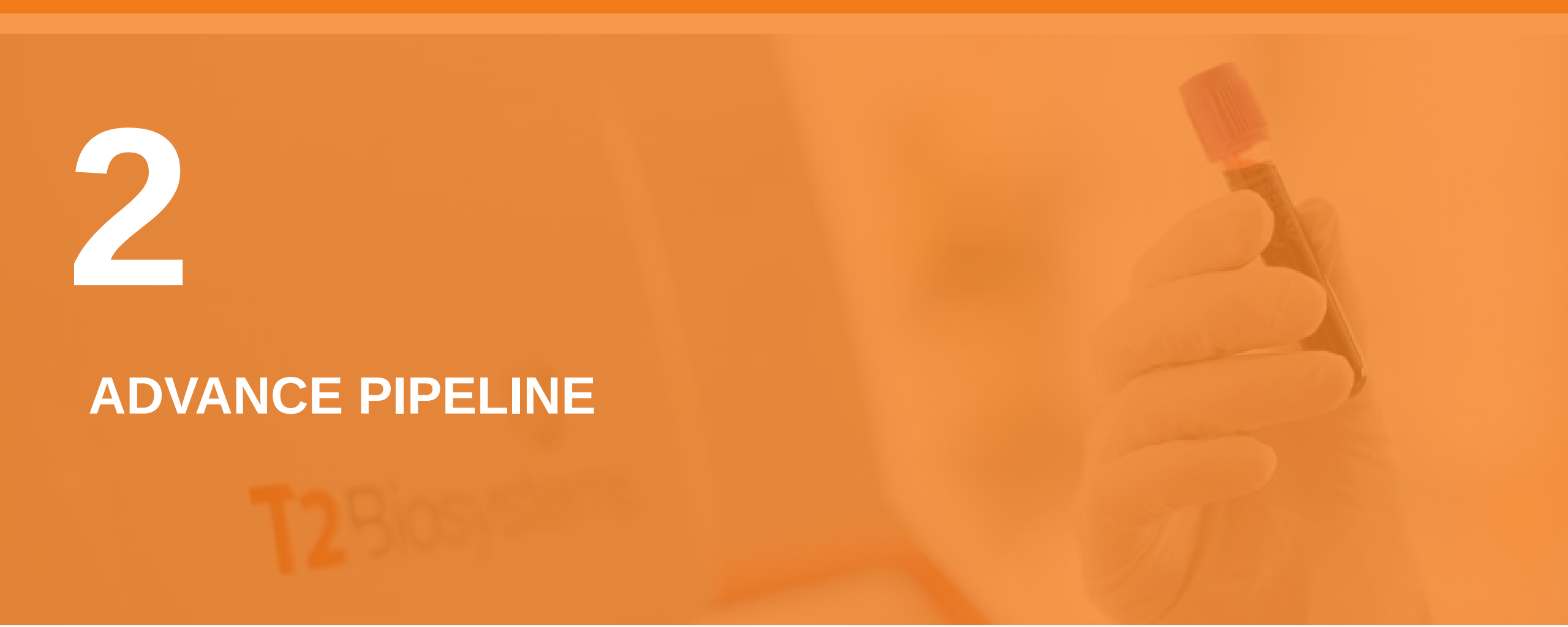
IMPLEMENTATION

UTILIZATION

Selected T2 Biosystems Customers

2

ADVANCE PIPELINE



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

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

Research reported in this presentation is supported by the Cooperative Agreement Number IDSEP160030 from ASPR/BARDA and by an award from Wellcome Trust, as administrated by CARB-X. The content is solely the responsibility of T2 Biosystems and does not necessarily represent the official views of the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response, other funders, or CARB-X.

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

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

- 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
- Discussions with multiple reference laboratories are underway for launching T2Lyme as a reference-lab LDT

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.

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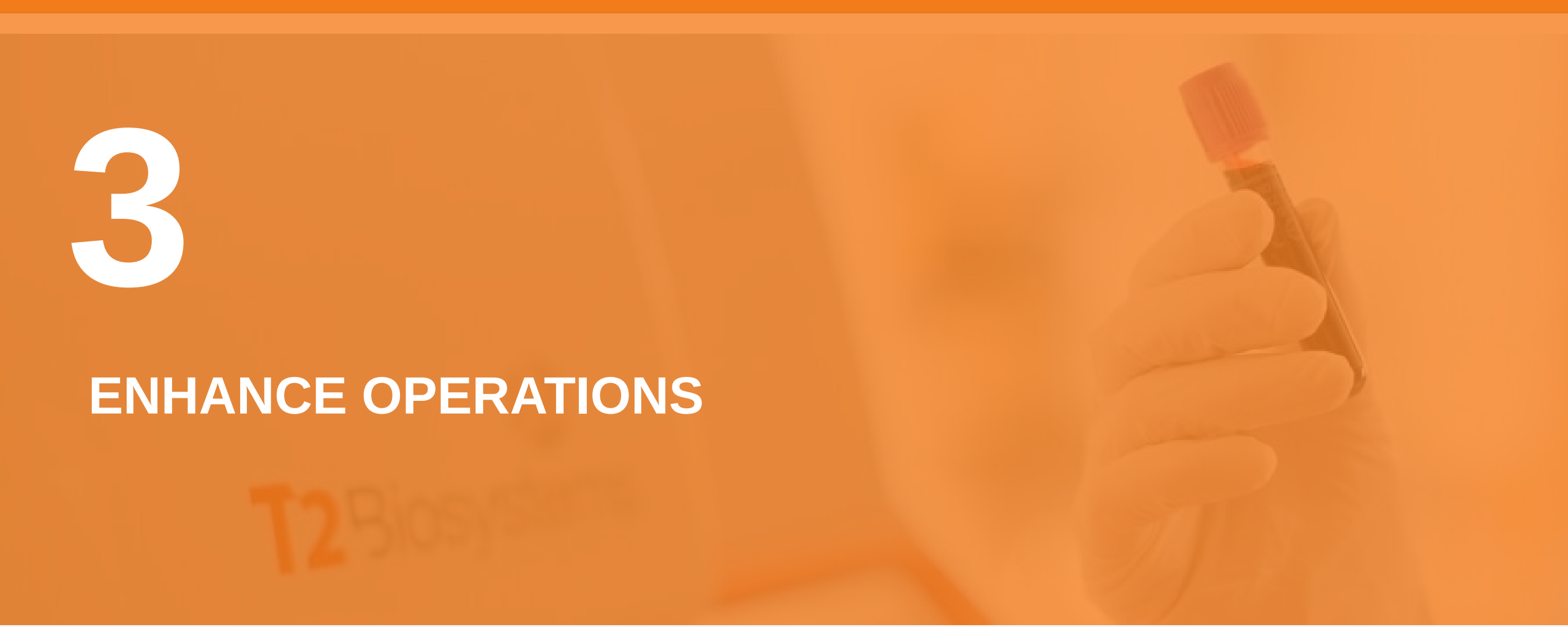
ENHANCE OPERATIONS



T2 Operational Objectives

- Reduce cost of goods sold (COGS)
- Scale production volume to meet commercial demand
- Update infrastructure to enhance operational efficiencies

Financial Summary[1]

December 31, 2019		
Revenue	4Q19	$3.0M
	4Q18	$1.8M
	FY19	$8.3M
Product Revenue[4]	4Q19	$1.5M
	4Q18	$1.3M
	FY19	$5.5M
Product Growth	YoY	15%
Cash Burn[5]	4Q19	$10.9M
Cash[6]		$11.2M
Common Shares Outstanding	4Q19	50.7M

>5% Investors[2,3]	
Canon Life Sciences	12.0%
Goldman Sachs	8.3%

1. All amounts are rounded to the nearest hundred thousand.
2. Based on 50,650,354 shares outstanding as of December 31, 2019.
3. Source SEC filings as of January 8, 2020.
4. FY19 Includes $0.2 million T2Dx instruments associated with a U.S. Government contract.
5. Excludes $4.8 M raised through sale of 3,807,113 shares of common stock under the ATM facility in 4Q19.
6. Includes $180k restricted cash.