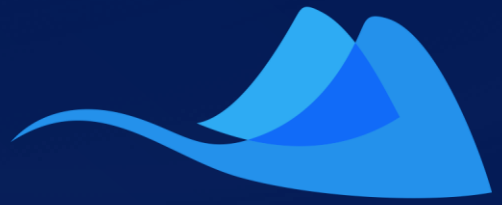


mantaBio

Automated Contamination Testing For The Drug Supply Chain

Drug Contamination Testing Takes Weeks

Decisions Must Be Made In Hours

Manufacturing Decisions Are Made In **<4 Hours**

Current “Rapid” Sterility Tests Take **4 Days+**

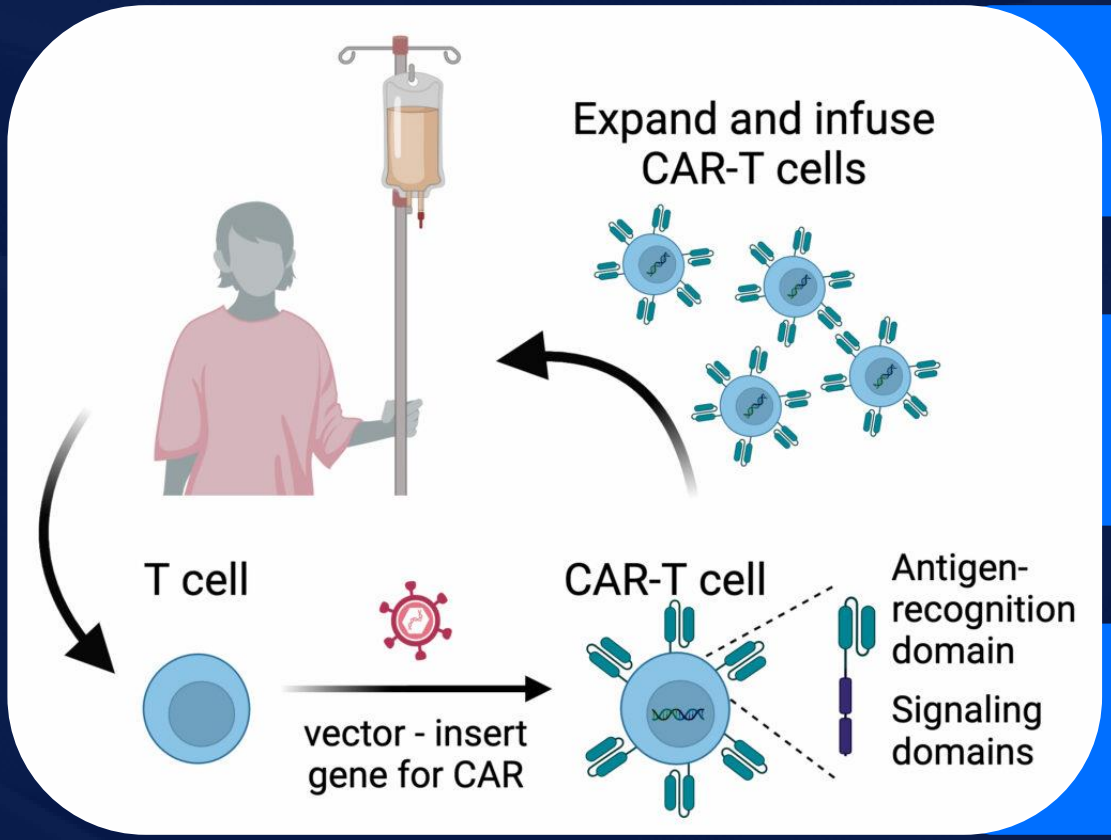
Traditional Method Takes **14 Days**

1 of 20 Bioreactor Runs Result in **Contamination**

Costing manufacturers **$10M-$100M/incident**

18,000 American Cancer Patients Die Waiting

CAR-T & Personalized Medicine Wait Times Negatively Impact Outcomes



1.5 Months[1]

Average Wait Time For CAR-T Therapy
For Cancer Patients

Patient Condition

Declines Rapidly Waiting For Cells

$400k[2]

Average Cost Per Dose of CAR-T Therapy

Chimeric Antigen Receptor (CAR) T-cell therapy is a personalized immunotherapy that genetically modifies a patient's own T-cells (immune cells) to recognize and attack cancer cells. Used primarily for blood cancers like leukemia and lymphoma, it is a "living drug" designed for relapsed/refractory patients to provide long-term remission.

1. Gye A, Lourenco R, Goodall S Discrete Event Simulation to Incorporate Infusion Wait-Time When Assessing Cost-Effectiveness of a Chimeric-Antigen Receptor T Cell Therapy; Value in Health, 2024; 27, 415-424
2. American Cancer Society (link)

Rapid Testing Can Save Lives

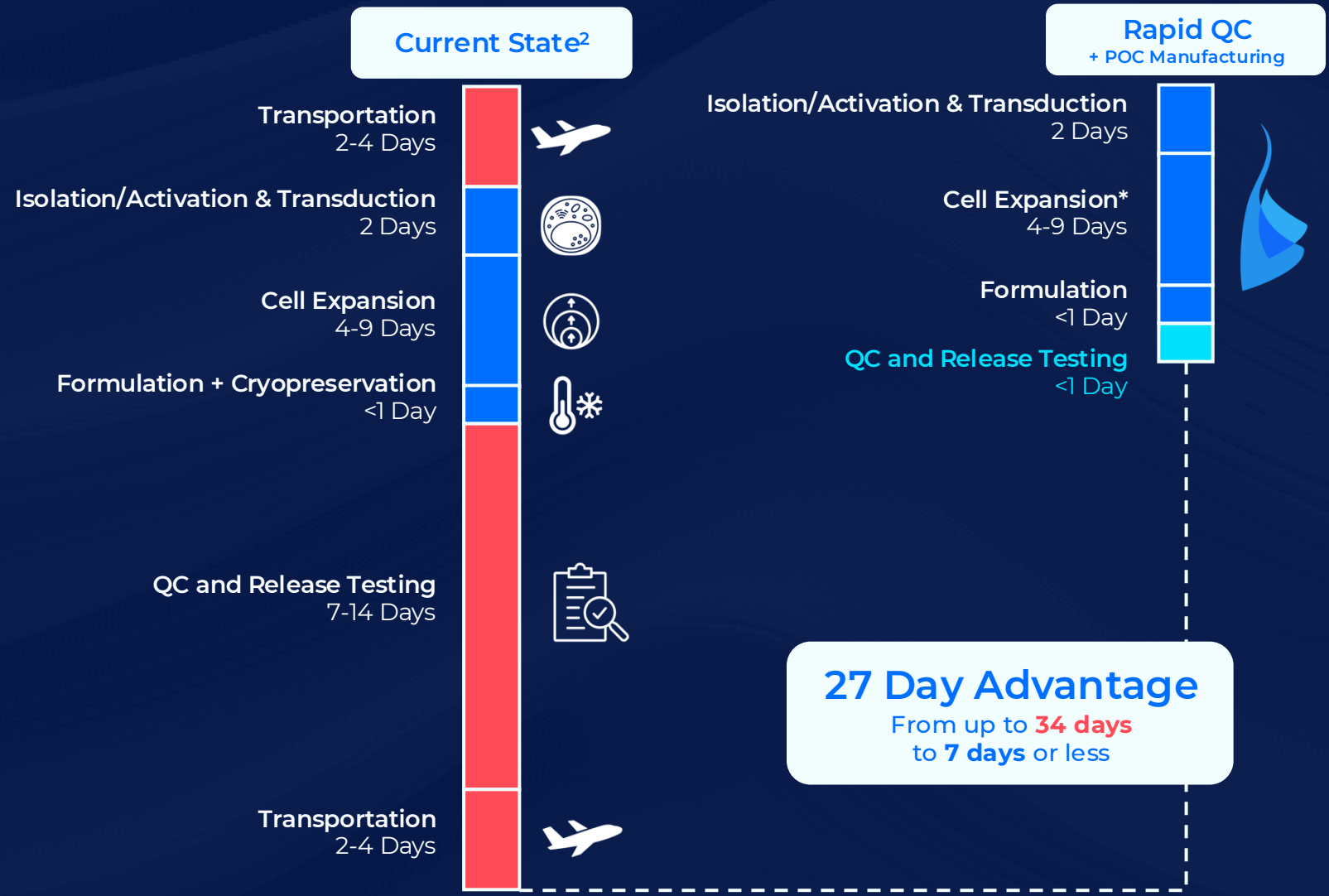
3.2 Years[1]

Average Extended Life By Decreasing Wait Time

Reducing Vein-To-Vein Time (V2VT) is associated with higher complete response (CR) rates and greater overall survival

Up to **~50%** cost/dose advantage with POC manufacturing with rapid QC

This is solvable



*POC manufacturing may lower the required duration of cell expansion, or remove the step altogether, as T-cells that are never frozen are more effective — leading to both lower dose and lower cost. For the sake of comparative simplicity and lack of clear data from real world use cases, this advantage is omitted from the illustration

1. Gye A, Lourenco R, Goodall S: *Discrete Event Simulation to Incorporate Infusion Wait-Time When Assessing Cost-Effectiveness of a Chimeric-Antigen Receptor T Cell Therapy*; Value in Health, 2024; 27, 415-424
2. Lieberman M, Henckels K: *Full Speed Ahead: How Rapid CAR-T Manufacturing Can Shape The Cell Therapy Landscape*; Cell & Gene Therapy Insights, 2025; 11(4), 515-532

The Industry-Wide Cost of Slow QC

$12B
Annually Discarded Product

>750
FDA Drug Recalls Per Year

$175M
Genzyme's Historically Severe FDA Fine
For Viral Contamination

$1M - $2M/day
Cost of Manufacturing Line Down Time

Weeks-Months
Manufacturing Line Down Time Duration
In Contamination Events

Automated Industrial QC Platform Drug Product Safety Results In *2 Hours*

BoD & Leadership Background

Lonza zoetis Pfizer

Deployable Anywhere, By Anyone

1 Minute
Hands-On Time

2 Hour
Time To Result

PCR
is an accepted rapid method
under USP <1071>

$50B
Total Addressable Market Opportunity

14 Tier-1 Biopharma Alpha Engagements

$1.1M ARR Per Site

Razor / Razor Blade Business Model

One time Unit Sales

- **4 Units**
- **$80,000 / System**
- **$320,000** One Time

Consumable Cartridges

- **4 Active Units**
- **5 Tests / Day**
- **250 Days / Year**
- **$225 / Test**
- **$1.1M / Year**

>1,500 Sites
Worldwide

>75%
Gross Margin

$200B+
New USA Infrastructure
Announced in 2025

>$100M With One Application

We're Developing Five

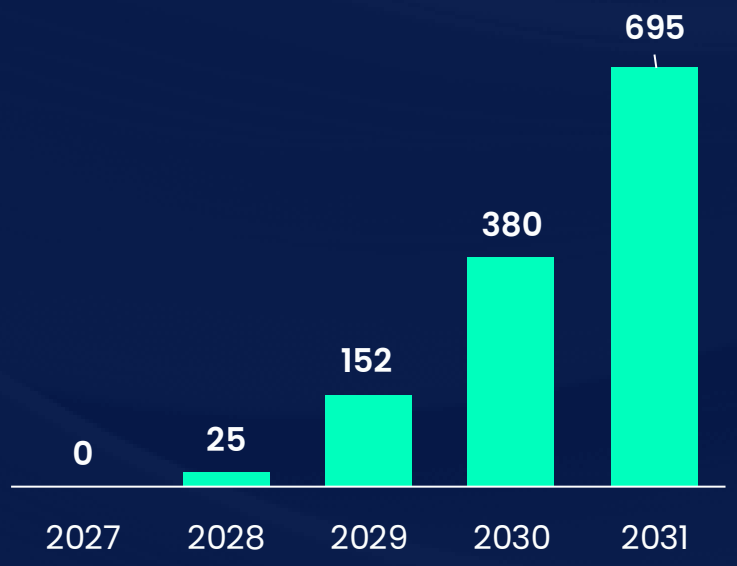
Achievable With 10 Customers

And Only One Application

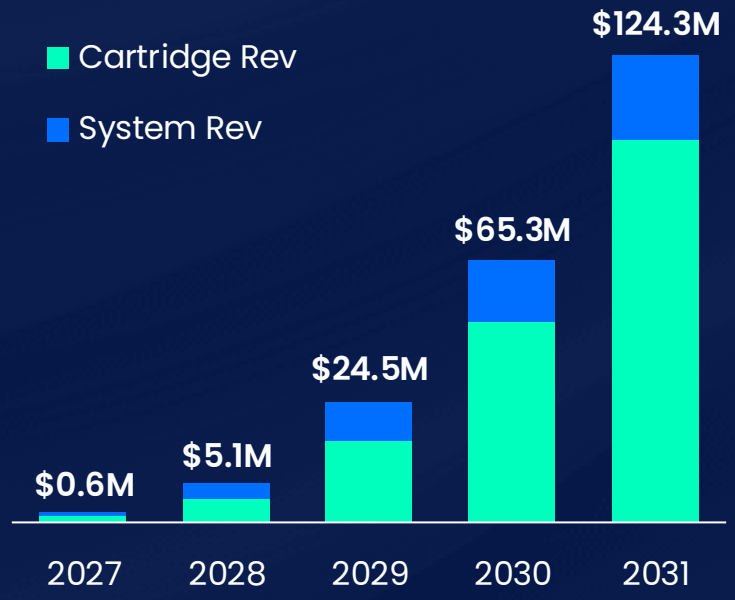
82% Recurring Rev at $124M

By 2031

Active Units



Revenue



Pilot Leases in 2027

Commercial Sales Start 2028

20 companies own >50% of the biologics market

We can achieve these numbers by winning global rollout with 10 companies with a single application

They are already interested and engaged

A Focused Entry To A $50B Ceiling

OUR BEACHHEAD

We are starting in **sterile product safety testing for biologics manufacturing** — a $4B+ market where the value proposition is obvious with no acceptable solution. High margins and urgent customer pain create a rapid, clear path to profitability**.**

SPRINT TO PROFITABILITY

Increase share of customer by expanding to adjacent needs within the same accounts — in-process monitoring, drug discovery, and drug development. These applications broaden our addressable market by **+$4B**.

THE LONG GAME

Expand into adjacent markets (e.g., cosmetics & personal care, clinical testing labs, dialysis, etc.) where minor product adaptations unlock entirely new verticals. Each expansion follows the same playbook: identify the next ***known*** problem, solve it with best-in-class automation.

Biopharma Already Uses PCR

Rapid Release of Short Shelf-Life Products

1

Cell therapies

CAR-T cells (cancer)

Tumor-Infiltrating Lymphocytes (cancer)

Stem cells (blood disorders)

Stromal cells (regenerative)

Dendritic cells (immune response)

2

Radiopharmaceuticals

Cancer therapies

Diagnostics and imaging

3

Gene therapies

Cancer treatments

Blood disorders

Genetic disorders

4

Patient-specific CSPs

Chemotherapy infusions

Antibiotic ophthalmic drops

Intravenous medications

Cardiovascular and hormone infusions

Pediatric / Neonatal formulations

We Replace Hours Of Skilled Labor Anywhere

Technician Time Is Not Scalable And Error Prone — Automation Isn't

Current State

Single-use cartridge

Minimal hands-on time, easy sample loading

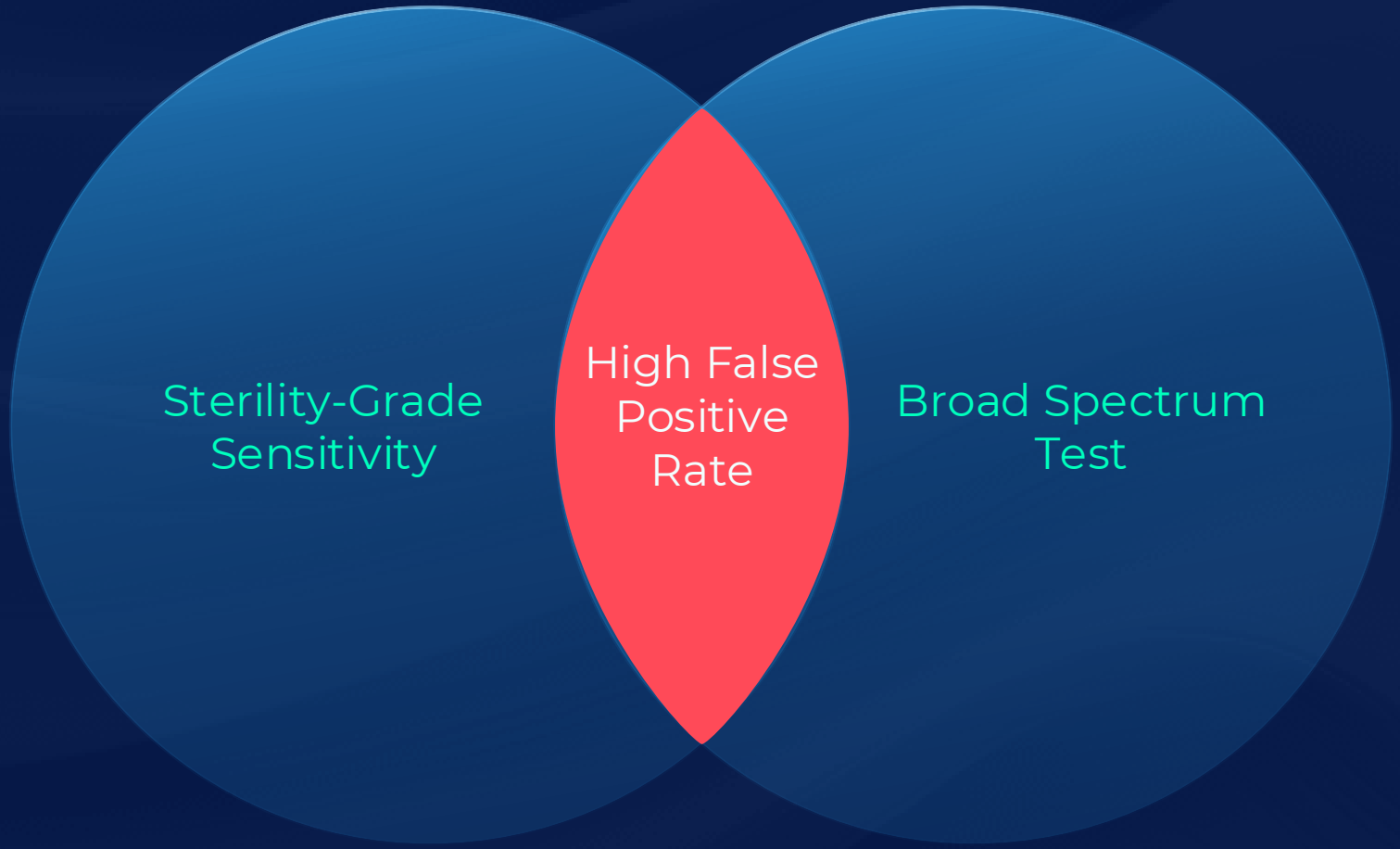
~2hr automated test

Deployable Anywhere

Traditional PCR Doesn't Work For All Drugs

Traditional PCR Sample Volume ***Limitations*** Are Lower Than Reg Requirements

We Meet These Requirements
(>10x Volume)



Industry ***Requires*** Presence/Absence Test of ***ALL*** known Bacteria/Fungi For Sterility

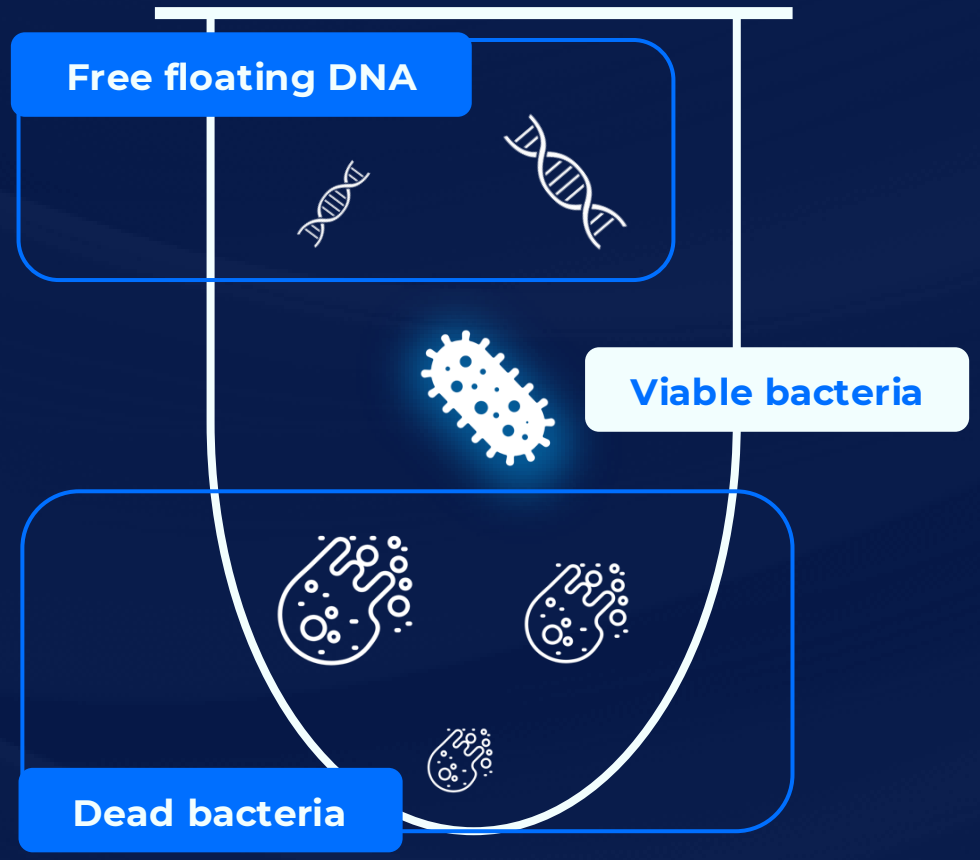
We combine these into one test

Main Causes For False Positives

Technician Contaminates The Sample

DNA Or RNA Detected From Dead Cells

False Positives Challenge PCR

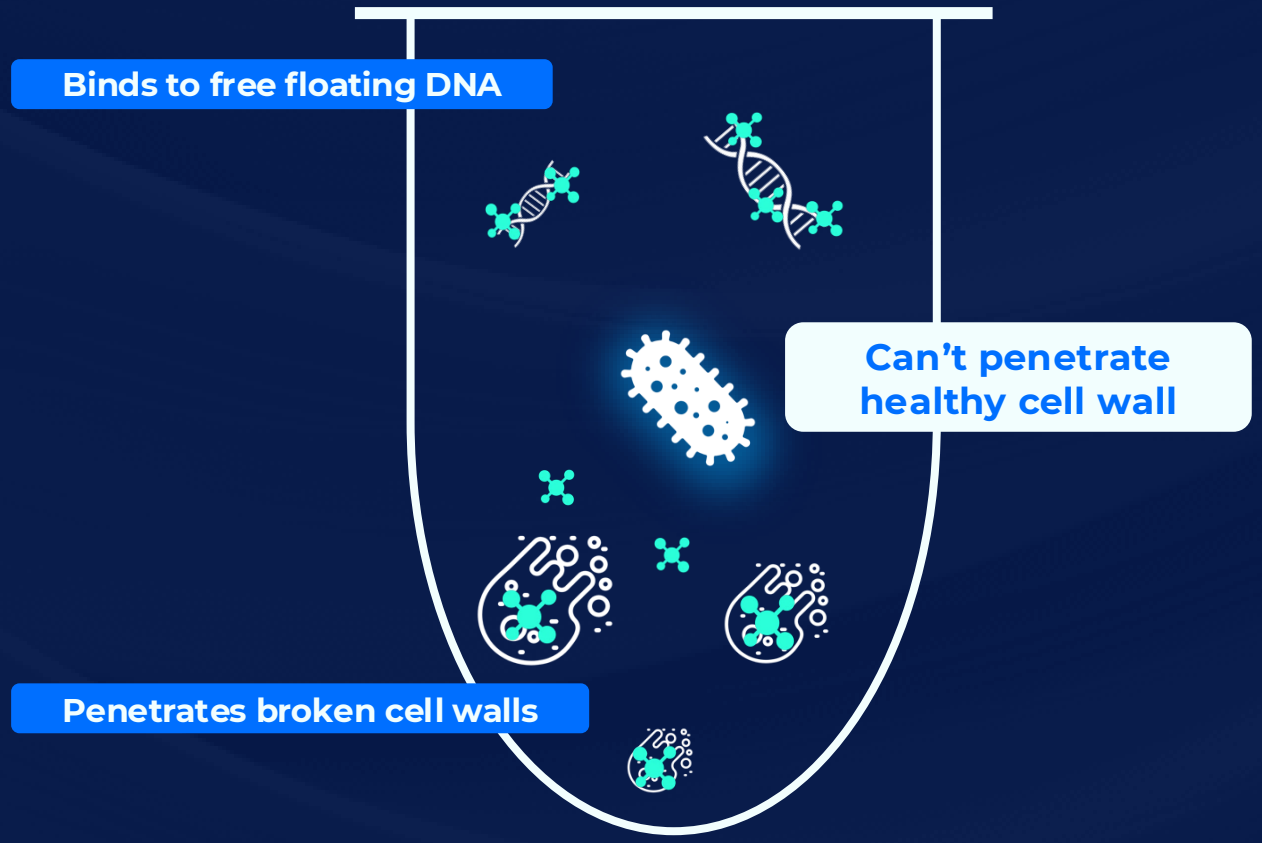


PCR creates **signal** by photocopying genetic material (DNA).

However, free floating DNA and DNA from dead bacteria create signal too (**false positives**).

Extreme sensitivity is limited as it becomes difficult to discern between **false positive** and a **true positive**.

How We Fixed It



We add a large molecule dye that blocks DNA replication.

The dye cannot penetrate a healthy/viable cell wall.

The result is **dramatically reduced false positives**

We filed a patent on automating viability PCR on our platform.

We’re Built For Sterility

Six Innovations — One System

Specificity

Closed System
(No Human Exposure)

Viability PCR
(Differentiates Signal From Dead Cells)

Sensitivity

Large Sample Volume
(10x Average)

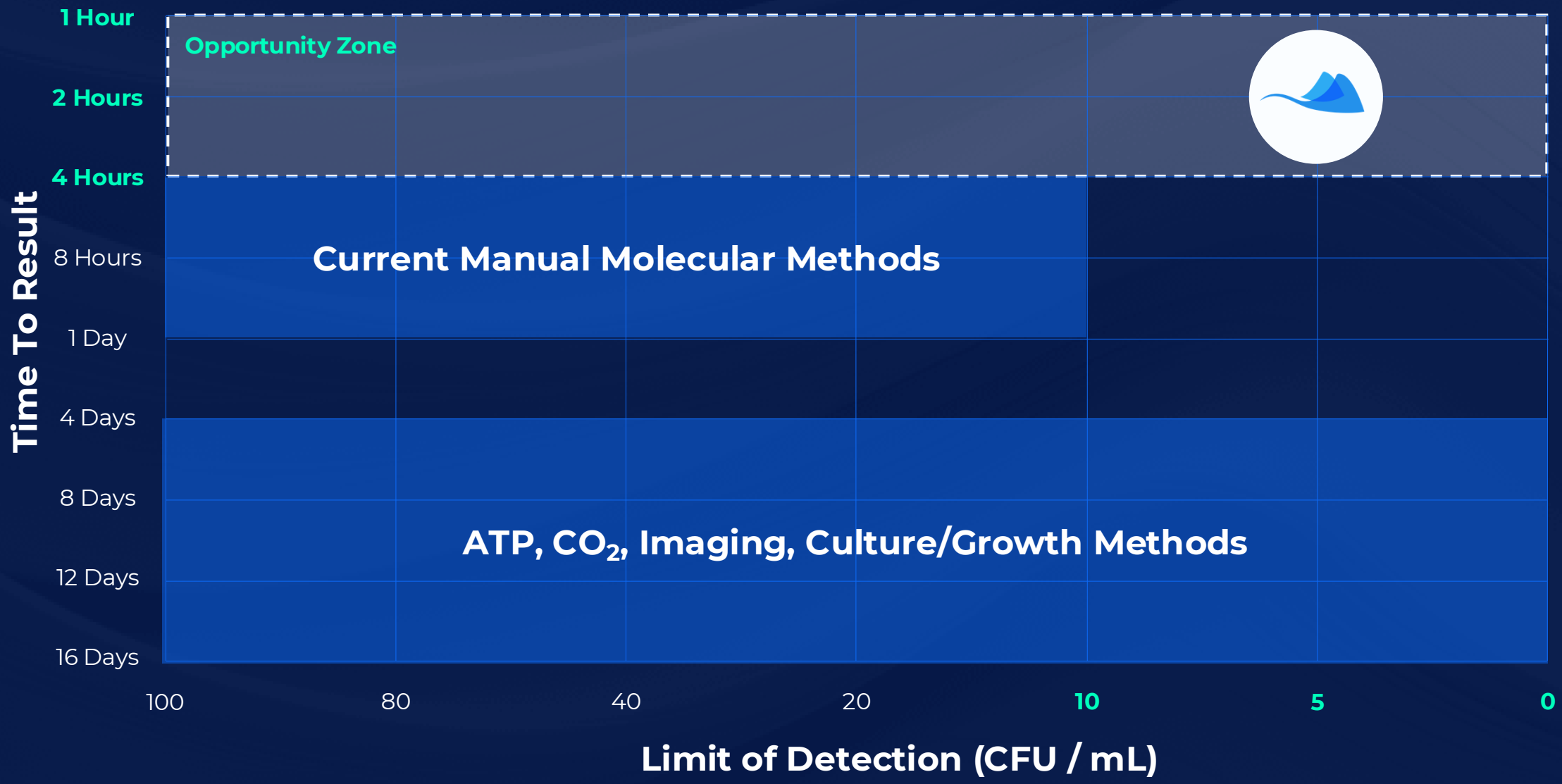
4-Phase Sample Prep
(Ultra-Sensitive DNA Extraction)

Speed

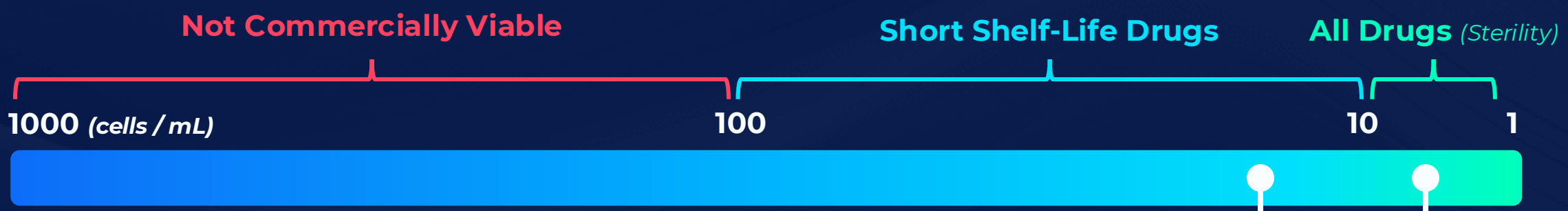
Automated
(1 Minute Hands-On)

Deployable Anywhere
(At Manufacturing Line, Or Clinic, etc.)

Our Uncontested White Space



Best-In-Class Sensitivity



Initial *Proof Of Concept* studies demonstrated **commercially acceptable** sensitivity levels before assay optimization.

We are now implementing steps to remove background noise to **further improve sensitivity**.

Our Performance

(~2 Hours, Pre-Optimization)

6
Gram+ Bacteria (medium)

19
Spores (hard)

Forming An Industry Working Group

With the largest biopharmaceutical manufacturers

Forming An Industry Working Group

With the largest biopharmaceutical manufacturers

$250,000 / Application

Validated Application

Collaboration

Biopharma Customer

Two partners want to roll MantaBio out globally

They asked us one question: “Can you handle the volume?”

*We need to raise to say **yes**.*

Global Deployment Revenue Opportunity (At Full Deployment)

$20M+	$35M-55M
one-time placements	annual recurring revenue
System sales at full deployment	Primarily single use cartridges

We Need $5M To Say Yes

$5.0M
Series Seed Cash Target

+$5.0M
Needed For Commercial Launch

We Have Run This Exact Playbook Before

Jack Regan
CEO & CTO
CoFounder

BIO-RAD
Lawrence Livermore National Laboratory
QuantaLife

Technical Expert
Brought 3 Sample-To Answer Systems To Market

Carter Boisfontaine
President
CoFounder

BIRD
CANYON CREEK CAPITAL
PEGASUS TECH VENTURES

Corporate Finance Expert
VC -> Operator
$500M+ Of Transactions

Bill Puent
VP of BD

Lonza
VEOLIA
SENTINEL MONITORING SYSTEMS

Industry Expert
Integrated >10 Technologies Into Life Sci Manufacturing
Exited Founder/CEO In Bioprocessing

Other Board Members

Odis Pirtle
Pharma and Animal Health Executive

Pfizer
zoetis

Curt Boisfontaine
CEO of Meridian

Key Investments:
mantaBio
FidoCure®