

# Confidential Investment Presentation



[www.vivionebiosciences.com](http://www.vivionebiosciences.com)

Symbol "VBI" (TSX Venture Exchange)

# Forward Looking Statements



Some of the statements contained herein including, without limitation, financial and business prospects and financial outlooks, may be forward-looking statements that reflect management's expectations regarding future plans and intentions, growth, results of operations, performance, and business prospects and opportunities. Words such as "may," "will," "should," "could," "anticipate," "believe," "expect," "intend," "plan," "potential," "continue," and similar expressions have been used to identify these forward-looking statements. These statements reflect management's current beliefs and are based on uncertainties. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements including changes in general economic and market conditions and other risk factors. Although the forward-looking statements contained within this presentation are based upon what management believes to be reasonable assumptions, management cannot assure that actual results will be consistent with these forward-looking statements. Investors should not place undue reliance on forward-looking statements. These forward-looking statements are made as of the date hereof and we assume no obligation to update or revise them to reflect new events or circumstances.

# Company Overview



- **Vivione Biosciences is a technology and life sciences company focused on rapid bacterial detection**
- **The company has developed a proprietary diagnostic system called RAPID-B, which tests bacteria in critical environments and provides quantitative results in seven hours or less**
- **We believe that RAPID-B is the fastest, most accurate, and most cost-effective diagnostic testing system currently available for detecting bacteria**
- **Vivione is in the process of commercializing the RAPID-B system for several multi-billion dollar markets in the in-vitro clinical markets (urine, blood, and sepsis)**



# Company Background



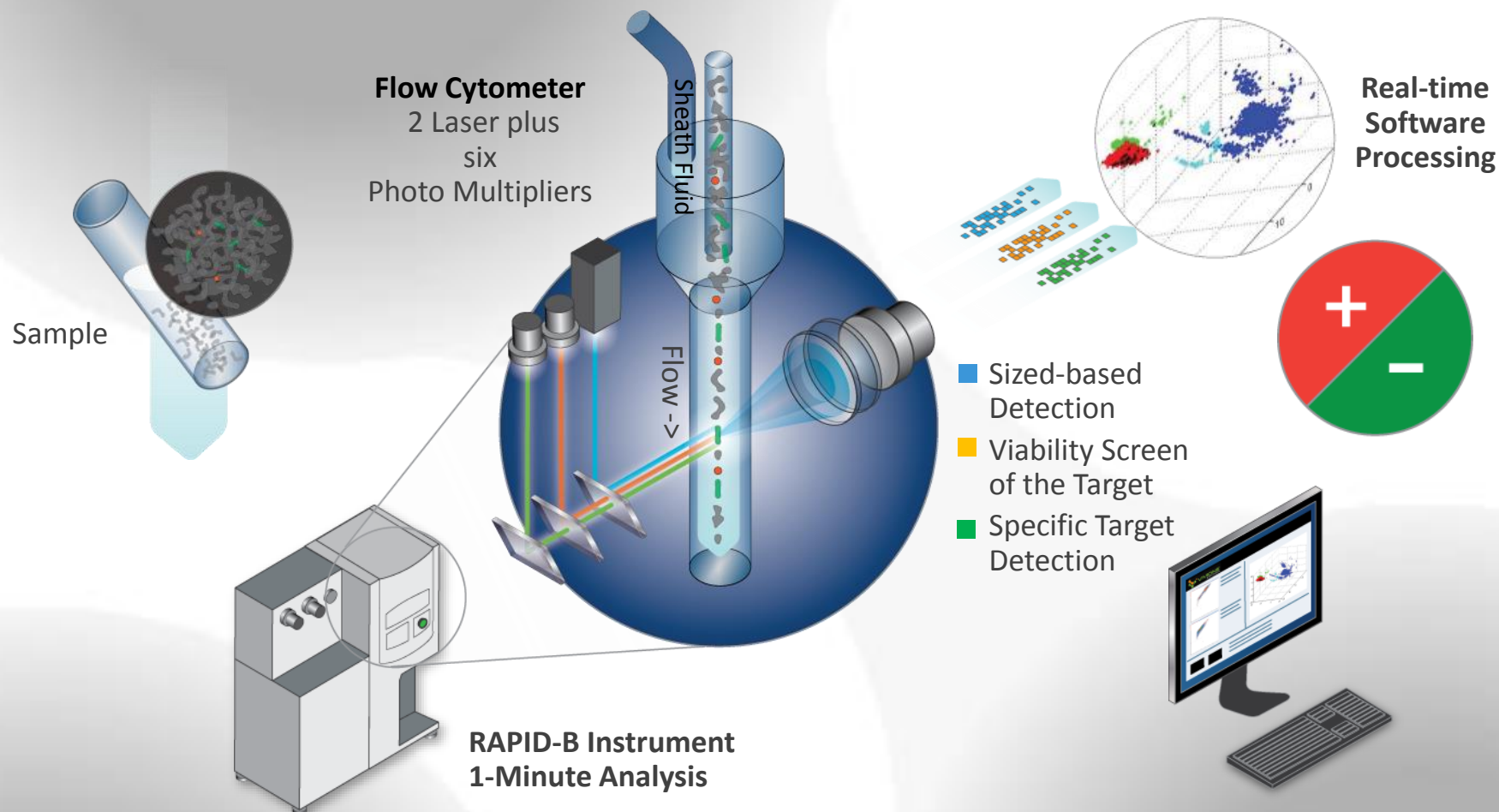
- **Vivione Biosciences was founded in 2006 under a Cooperative Research and Development Agreement (CRADA) with the Food and Drug Administration**
- **RAPID-B was developed in collaboration with the FDA's National Center for Toxicological Research**
  - Vivione and the FDA have jointly filing patent applications
  - Vivione has received exclusive licensing rights from the FDA
- **Vivione Biosciences became a public entity in April 2013 through a Capital Pool Company (CPC) merger**
  - Raised \$6 million concurrently with the merger
  - Currently listed on TSX-V
- **Headquartered in Dallas, Texas**





- **Vivione has completed an initial clinical pilot study at the Cleveland Clinic and will be starting one shortly at Northwestern University**
- **Vivione has entered into an Option Agreement with the University of Rochester for a novel biomarker for sepsis, VLA-3.**
  - This includes a 12 month research agreement for clinical data development with the University of Rochester Medical Center
  - Vivione will have the option to license the biomarker for clinical diagnostics and to exclusive, worldwide rights to a therapeutic peptide targeting the same VLA-3 molecule

# The RAPID-B System



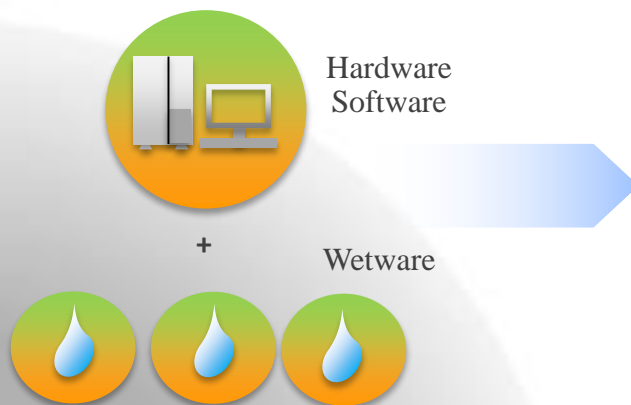
Finding bacteria in a sample is akin to finding a needle in a haystack. The RAPID-B technology analyzes every 'needle' superfast - to find the bacteria of interest.



## RAPID-B's Flow Cytometric system produces faster, more precise, and more cost-effective diagnostic results



### RAPID-B System



- **PROPRIETARY:** Joint patents filed with the FDA, exclusive licenses with the FDA
- **SPEED:** Generates results in substantially less time than competing technologies
  - 15 min to 8 hrs (RAPID-B) vs. 24 hrs to 28 days (Competitors)
- **ACCURATE:** Capable of counting the exact number of bacteria cells – providing greater accuracy and sensitivity. Can detect both live *and* dead cells - minimizing false results
- **RUGGED:** Durable and easily operated by lab personnel in the field
- **COST EFFECTIVE:** Saves customers money through improved efficiencies, reduced chemical costs, and longer-lasting equipment





## Addressable Market:

- \$12B global microbiology market (approx \$6B U.S. market)
- \$3B global sepsis market

## Target Customers:

- Hospitals and clinics
- Large commercial labs

## Product opportunities:

- More than 20 million blood cultures ordered in U.S. annually
- Average number of blood/urine tests performed per ICU: 100 per day (3,000 per month)

## RAPID-B Benefits:

- Able to detect bacteria in blood and urine within hours (vs. days) - providing the physician with the information necessary to prescribe the proper antibiotic, and potentially saving lives and reducing a patient's stay in the hospital
- Cost-effective screening method to determine which antibiotic is most effective
- Assessment of neutrophil VLA-3 shown to be early indicator of sepsis in ICU patients.
- Application of automated multi-parameter cellular biomarker assessment for expansive sepsis triage.
- Successful completion of UTI pilot study at Cleveland Clinic (100% sensitivity/85% specificity at 15 minutes vs 48hrs)

## Certification:

- FDA Certifications required (Immediate distribution of Trillium CD64 biomarker with CE mark)





|                             | <b>Current Method</b>                                     | <b>Time to Results</b> | <b>Vivione</b>  | <b>Advantage</b>  |
|-----------------------------|---|------------------------|-----------------|---|
| <b>Blood Culture Screen</b> | CO <sub>2</sub> detection (BioMérieux, BD, Trek)          | 18-72 hours            | Flow-cytometric | Speed to result (3-5 hours) - Quantification            |
| <b>Urine Culture Screen</b> | Gram stain, Culture plate                                 | 24-72 hours            | Flow-cytometric | Speed to result (3-6 hours) - Quantification            |
| <b>Pneumonia Etiology</b>   | Gram stain, Culture plate                                 | 48-72 hours            | Flow-cytometric | Speed to result (2-4 hours) - Sensitivity & Specificity |
| <b>Sepsis Etiology</b>      | Molecular methods (Roche, BD, Cepheid)<br>Culture methods | 20-72 hours            | Flow-cytometric | Speed to result (3-5 hours) - Quantification            |



## Direct Analysis Drug Susceptibility Analysis

| Current Methods                    | Time to Results | Parameters Assessed | Vivione Time to Results | Vivione Parameters Assessed |
|------------------------------------|-----------------|---------------------|-------------------------|-----------------------------|
| Broth Dilution                     | 12-18 hours     | Turbidity           | 1.5 to 2 hours          | Both Growth and Morphology  |
| eTest BioMérieux                   | 12-18 hours     | Plate Inhibition    |                         |                             |
| Disk Diffusion                     | 16-24 hours     | Plate Inhibition    |                         |                             |
| Automated, BioMérieux, BD, Siemens | 3.5-24 hours    | Growth Density      |                         |                             |



## **Kevin Kuykendall - Chairman and Chief Executive Officer**

Mr. Kuykendall has more than 20+ years in senior management positions for Fortune 100 to early stage companies and has experience in fund raising and operations. Mr. Kuykendall is currently CEO of Vivione Biosciences, Inc. and was instrumental in taking the company public on the Toronto Stock Exchange, raising \$6 million, and commercializing the Company's products in 2013. He was also a Founding Member and CEO of White Energy (Ethanol Producer) and Health2O (Nutraceutical). Mr. Kuykendall raised over \$490MM in equity/debt for White Energy and developed \$750MM in Revenue within the first 36 months of operations. Kevin played major league baseball for the Cleveland Indians and has a Bachelor of Science degree in Business Administration from Western Oregon University.

## **Matthew Gombrich, M.D., M.S. - CMO**

Dr. Gombrich serves as Chief Medical Officer (CMO) has approximately 20 years of development experience in the In Vitro diagnostic sector, namely around infectious disease and cancer testing. Dr. Gombrich was instrumental in market development of several rapid diagnostic assays for pneumonia-related pathogens, including the Binax (Alere) Rapid Legionella Assay and Pneumococcal Urinary Antigen tests. This included post-market clinical study design and the creation of sales and marketing educational content. Dr. Gombrich also has been involved in product development of a point-of-care cervical cancer screening test aimed at the developing world. Dr. Gombrich received his Medical Degree and Masters degree in Experimental Pathology from Case Western Reserve University in Cleveland in 2005.

## **Chester J. Jachimiec, Esq. - CFO**

Mr. Jachimiec, serves as the Chief Financial Officer (CFO) of the Company. Mr. Jachimiec has over 30 years of experience in law, public accounting, finance, corporate development and product commercialization in the technology and energy industries. He has been a founder, and involved in the capitalization and growth of several public and private companies in the facilities services, fuels and lubricants distribution, oilfield services, software and bio-diagnostics industries. Mr. Jachimiec was an initial founding shareholder and director of PACEpartners Inc., the predecessor by merger of the Company. Mr. Jachimiec holds a Bachelors of Business Administration in Accounting from Loyola University of Chicago and a Juris Doctorate from Northwestern University School of Law.



## Capitalization

|                                  |            |
|----------------------------------|------------|
| Class A Voting Common Shares     | 39,644,607 |
| Class B Non-Voting Common Shares | 27,450,241 |
| Options                          | 5,617,190  |
| Warrants                         | 14,752,000 |



## Table of comparable bioscience companies and EV/Rev multiples (US\$)

| Company    | Revenue Range | Market Cap | Multiple (EV/Rev) | Status           | Relevance                           |
|------------|---------------|------------|-------------------|------------------|-------------------------------------|
| Accuri †   | \$20MM        | \$205M     | 10.25             | Sold - 09/2011   | Diagnostics / Instrumentation       |
| Cepheid    | \$446-461MM   | \$3.73B    | 8.09-8.36         | NASDAQ (2/25/14) | Microbiology Diagnostics            |
| Handylab ‡ | \$8MM (est.)  | \$275M     | 34.38             | Sold - 11/2009   | Microbiology Diagnostics            |
| MTM ‡‡     | \$15MM (est.) | \$180M+    | 12.00             | Sold - 07/2011   | Diagnostics                         |
| Neogen     | \$235–250MM   | \$1.59B    | 6.36-6.77         | NASDAQ (2/25/14) | Microbiology Diagnostics            |
| Roka       | \$3.4MM       | \$215M     | 62                | NASDAQ (8/22/14) | Microbiology Diagnostics            |
| BRAHMS     | \$90MM        | \$490M*    | 5.45              | Sold-2008        | Biomarker Discovery (Procalcitonin) |

† BD Bioscience Acquisition

‡ BD Biosciences Acquisition

‡‡ Roche's-Ventana Medical Systems Acquisition

\* Acquired by Fisher 2008

# Investment Summary



- **Vivione Biosciences is a technology and life sciences company focused on rapid bacterial detection with an expanding IP portfolio**
- **The company's RAPID-B platform is the fastest, most accurate, and most cost-effective diagnostic testing system currently available for detecting bacteria**
- **Vivione is in the process of commercializing the RAPID-B system for several multi-billion dollar clinical in-vitro diagnostic markets**
- **Vivione has successfully completed a clinical pilot study at the Cleveland Clinic and is preparing for studies at Northwestern University**