



 **Nanosphere**

## **Company Overview**

# Forward-Looking Statements

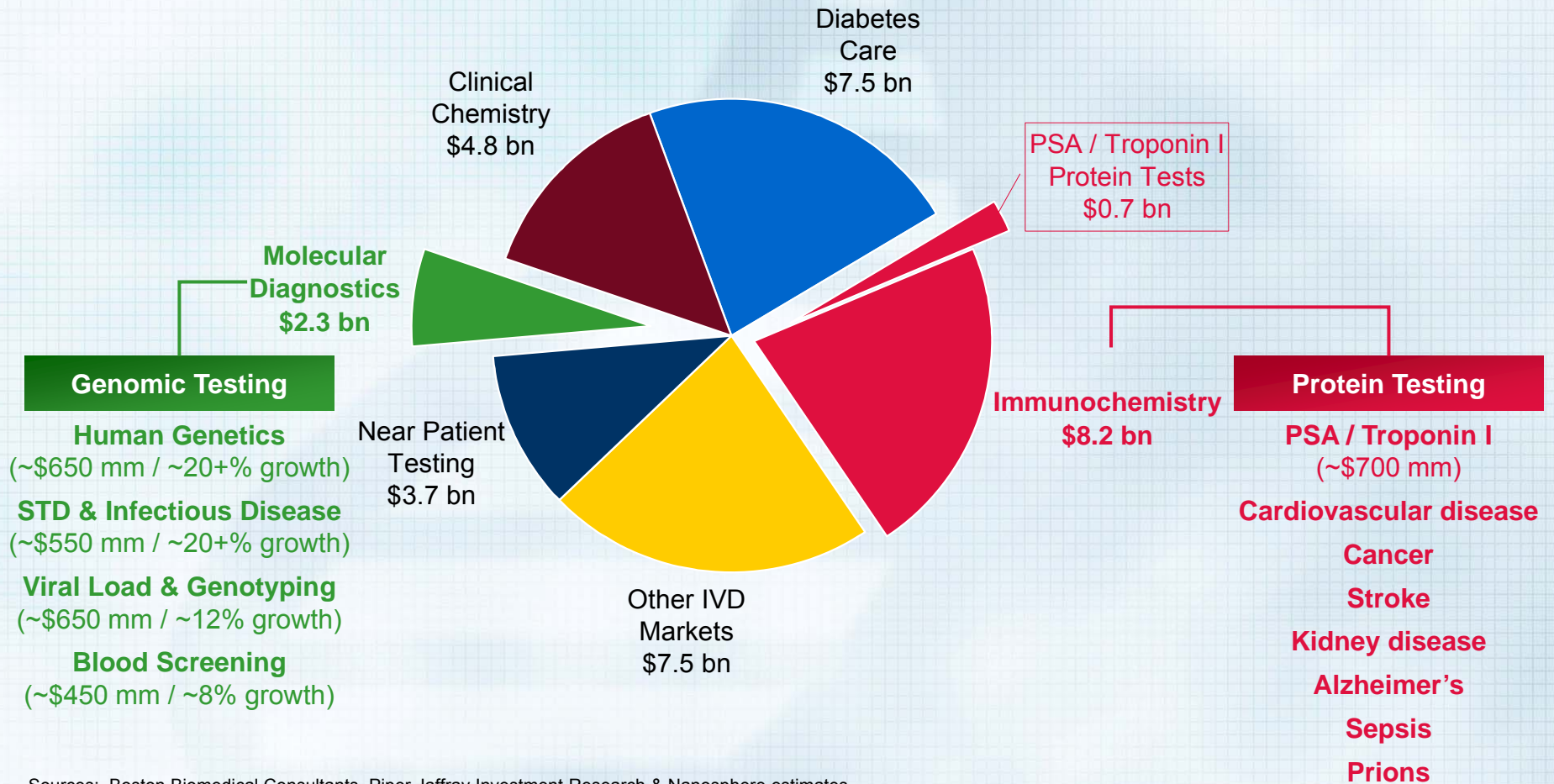
Nanosphere cautions that statements included in this presentation that are not a description of historical facts may be forward-looking statements that are subject to risks and uncertainties. Actual results may differ materially from those set forth in this presentation due to the risks and uncertainties inherent in Nanosphere's business. These risks include, but are not limited to the degree of customer adoption of our new technologies and products; our ability to continue to develop new technologies and products; our ability to obtain timely regulatory approval for our products; our ability to successfully transfer our products from the development to the manufacturing stage; our ability to raise the additional capital needed, if any, before our operations reach break-even; competition from existing, and in some cases much more established, companies and technologies as well as new entrants into our market; and such other uncertainties and risks as are from time to time listed in our filings with the Securities and Exchange Commission. See, for example, Item 1A "Risks Factors" in our Annual Report on Form 10-K for the year ended December 31, 2007. We are providing this information as of the date of this presentation and do not undertake any obligation to update any forward-looking statements contained in this document as a result of new information, future events or otherwise.

# Overview

- ▶ **First nanotechnology enabled molecular testing platform capable of genomic and protein testing**
- ▶ **Verigene System addresses major limitations in existing technologies**
  - Genetic testing: Lower cost, faster turnaround times, easy-to-use platform
  - Protein testing: At least 100x greater sensitivity than immunoassays
  - High count multiplexing capabilities
- ▶ **Deep pipeline of highly differentiated molecular tests**
  - Verigene System and first genomic assays FDA cleared and launched in Q4 2007
  - Multiple genomic and ultra-sensitive protein tests in development
- ▶ **Substantial IP portfolio and rights to future technology from Northwestern University**
- ▶ **Management team with significant experience in the IVD market**

# Our Market Opportunity

\$34 billion Worldwide In Vitro Diagnostics (IVD) Market in 2006



Sources: Boston Biomedical Consultants, Piper Jaffray Investment Research & Nanosphere estimates.

# Molecular Testing Systems in the Market Today

## PCR and RT-PCR Systems

- Limited multiplexing
- Contamination
- Batch process
- Hands-on tech time

## Post-PCR Multiplex Systems

- Post-PCR systems
- Lengthy work flow processes
- Multiple systems
- Hands-on tech time
- Batch process

## Other

Signal Amp  
Isothermal Amp  
Hybrid Capture  
FISH

- Limited multiplexing
- Lengthy work flow process
- Batch process
- Long assay cycles
- Complex sample prep

## Nanosphere

- High count multiplex array
- 90 minute assay
- Random access
- Minimal tech time
- Genomic and protein tests
- Generation 2 will include automated sample prep

# Moving Molecular Diagnostics into Mainstream Medicine

## Complexity, Cost, Specialized Labor and Facilities



## Medical Advances & Clinical Demand

### Limited Access Esoteric Testing

- Batch process
- Long turnaround time
- Specialized labor, facilities and equipment
- Results analysis and interpretation

### Decentralized Broad Market Adoption

- High reliability, specificity and accuracy
- Random access, unit use
- Low cost, universal platform
- Sample to result operation
- Clinically relevant panels
- Operator independent
- No data interpretation

# The Verigene® System

Ready to Use  
Disposable Test Cartridge



Verigene® Processor

Verigene® Reader



## System Features

- ▶ Self-contained, unit use test cartridge
- ▶ Microarray format for high count multiplex assays
- ▶ On board positive and negative controls
- ▶ Instrument controlled microfluidics
- ▶ Continuous quality monitoring

## Meets Customer Requirements

- ✓ Low cost and complexity
- ✓ Minimal tech time
- ✓ On demand testing; rapid results
- ✓ No results interpretation required
- ✓ Direct genomic detection
- ✓ Ultra-sensitive protein detection

## Direct Genomic Detection

- ▶ Simple, inexpensive genetic tests
- ▶ Enables multiplex arrays
- ▶ Decentralization of molecular diagnostics

# Nanotechnology Enabled Breakthrough

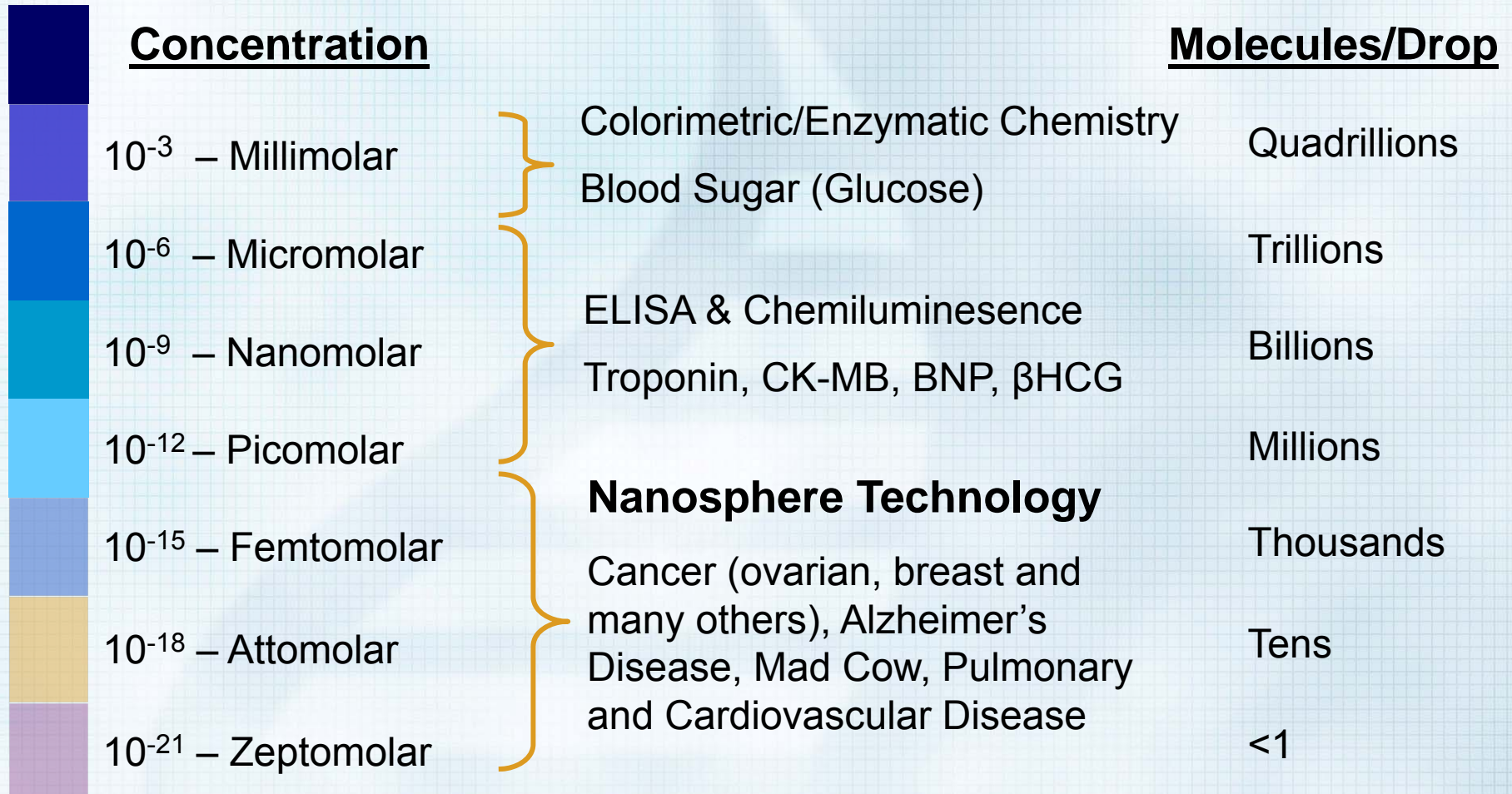
## Direct Genomic Detection

- ▶ Simple, inexpensive genetic tests
- ▶ Enables multiplex arrays
- ▶ Decentralization of molecular diagnostics

## Ultra-sensitive Protein Detection

- ▶ Earlier detection of disease
- ▶ New biomarker validation
- ▶ New diagnostic tests

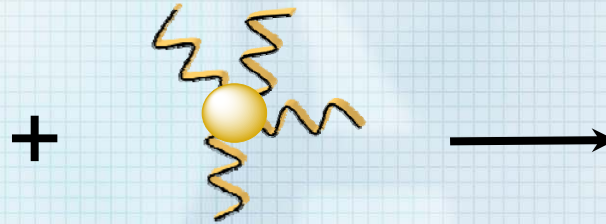
# Ultra-sensitive Protein Detection



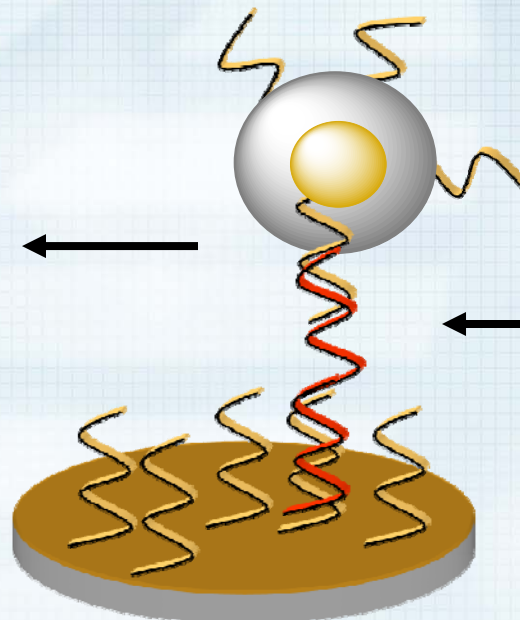
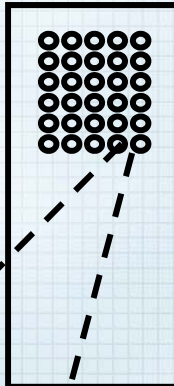
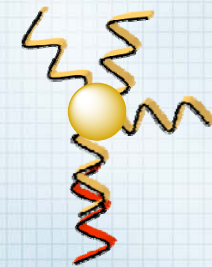
# Direct Detection



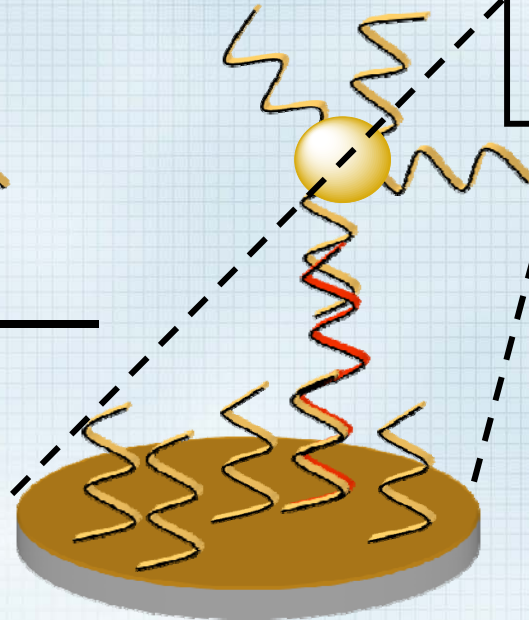
Patient Sample



Gold Nanoparticle Probe



Remove unbound material and enhance with silver



Capture on microarray

Verigene® Reader



# Verigene's Test Menu

## Near-Term Opportunities

### Genomic Tests

#### Warfarin Metabolism

- ✓ First FDA cleared pharmacogenomic test for warfarin (anti-coagulant)

#### Hypercoagulation

- ✓ Avoids contamination issues associated with PCR

#### Cystic Fibrosis<sup>1</sup>

- ✓ Multiplex capability allows direct detection of 23 targets in a single test

#### Herpes Simplex Virus<sup>1</sup>

- ✓ On demand, rapid result vs. microbiology

#### Human Papillomavirus (HPV)<sup>1</sup>

- ✓ Detection of 14 sexually-transmitted strains (95% of cervical cancer cases)

#### Respiratory Panel<sup>1</sup>

- ✓ Detection and ID the most common and variant respiratory viruses in <2 hours

### Ultra Sensitive Protein Detection

#### Cardiovascular Disease (Troponin)<sup>1</sup>

- ✓ More sensitive detection of ischemia

#### Prostate Cancer (PSA)<sup>1</sup>

- ✓ Earlier detection of recurrent prostate cancer post-surgery

FDA Initiative on Testing for Warfarin Usage

Most Commonly Performed Genetic Tests

Multiplex Strain Specific Panels

Existing Biomarkers

<sup>1</sup> Products under development as of June 1, 2008 (no regulatory approval).

# Verigene's Future Test Menu

## Early Stage Sequence Design

### Hospital Acquired Infections

- ▶ MRSA
- ▶ Sepsis

### Pharmacogenomics

- ▶ Chemotherapy
- ▶ Psychiatric drugs
- ▶ Pain management drugs

### Additional Genetics

- ▶ *HFE* Panel

## Active Biomarker Validation Program

### Alzheimer's Disease

### Ovarian Cancer

### Sepsis

### Stroke

### Kidney Disease

### Mad Cow Disease

### Autoimmune Disease

# Commercialization Strategy – Customer Focus

## ▶ **Established Molecular Laboratories**

- Associated with major hospitals
- 350-450 in the United States
- Regional reference and pathology labs

## ▶ **Community hospitals**

- 4,000+ in the United States
- Increased awareness and interest in value of molecular diagnostics capabilities
- Cost, complexity and resource requirements of existing technologies have limited adoption
- Cost effective, easy to use and versatile Verigene System enables adoption and fuels growth

## ▶ **Typical customer relationships**

- Reagent rental agreements
- System sales
- Menu driven expansion

# Top Ranked IP Position and Unique Relationship with Northwestern University

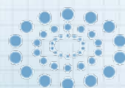
## World-Class IP Portfolio

- ▶ 85 issued patents
- ▶ Over 150 pending
- ▶ Nanotechnology IP portfolio ranked #2 behind only Hewlett Packard<sup>(1)</sup>



(1) 1790 Analytics LLC. Small Times, July/Aug 2005

- ▶ International Institute for Nanotechnology (IIN) at Northwestern University is one of the top nanotech centers in the world
- ▶ Core technologies from IIN biodiagnostics research
- ▶ On-going, exclusive relationship for further nanotechnology and biobarcode based biodiagnostics technology



**International Institute for Nanotechnology  
Northwestern University**

# 150+ Years of Clinical & Commercial Experience

## **Bill Moffitt – President and Chief Executive Officer**

- ▶ 30+ years in diagnostics; 19 in innovative technology development companies; formerly, CEO i-STAT



## **Mike McGarrity – Chief Marketing Officer**

- ▶ 20 years in medical device field; formerly, VP Marketing Stryker Instruments division



## **Roger Moody – Chief Financial Officer**

- ▶ 18 years financial management, accounting, planning and analysis; formerly, CFO and COO Medsn



## **Bill Cork – Chief Technology Officer**

- ▶ 22 years in technology leadership in medical device industry; formerly, VP R&D Baxter Fenwal Division



## **Other Commercial / Operational:**

### **Winton Gibbons – SVP, Business Development**

- ▶ 23 years in life sciences industry; SVP Strategic Marketing, Biosite

### **Greg Pletta – VP, Intellectual Property**

- ▶ 13+ years in IP mgmt, patent prosecution, litigation; formerly general counsel EraGen Biosciences

## **Clinical / Scientific / Technical:**

### **Greg Shipp, MD – VP, Medical Affairs, RAQA, Chief Medical Officer**

- ▶ 12 years medical, clinical, regulatory affairs management; formerly, VP Medical Affairs, i-STAT

### **Tom Holzman – VP, Research, Protein Sciences**

- ▶ 24 years in protein chemistry; formerly Protein Biochemistry, Abbott

# Investment Highlights

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