Luminex

Investor Event




NASDAQ MarketSite

March 25, 2010

Safe Harbor

Certain statements made during the course of this presentation may not be purely historical and consequently may be forward looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including but not limited to: statements made regarding our strategic initiatives, outlook and growth plan for our business for 2010 and beyond; our collaboration agreement with Advanced Liquid Logics and the potential capabilities and advantages of products developed with their technology; our acquisition of BSD Robotics and the anticipated benefits and financial impacts resulting therefrom; our Biothreat efforts, the expected growth of such market, the advantages of our products in such application, and the potential benefits of our collaboration with Northrup Grumman, including anticipated instrument placements; our core strengths and their capability to yield competitive advantages and position us for continued growth and market differentiation; the increasing productivity and profitability of our installed base of systems and its ability to act as a competitive barrier; the flexibility of our technology and the advantages of such flexibility; our automation initiatives and the potential advantages for our customers; our first mover advantages; our anticipated MAGPIX launch, its ability to increase our market penetration and its effects on sales of our other instruments; anticipated placements of FLXMAP 3D; the convergence of market needs and ability of our products and initiatives to meet such needs; our estimates regarding our target markets and their projected growth; customer consolidation of assays on one platform; our and our partners' ability to develop new products and to penetrate existing and new markets; the expansion of our direct assay segment product offerings, including custom assays and a suite of off-the-shelf reagents, methods and training courses; our ability to outpace the growth in the markets we serve and increase our leadership position; laboratory trends; the potential for future instrument placements; our international expansion and its ability to allow growth and our ability to leverage future expansions; maintaining our expense levels, growing revenue and driving overall profitability; our ability to maintain target gross margins; consumables sales; the probability of a back end loaded year; our long term financial targets; assumptions and expectations about capital sales markets, partner bead purchases, and flu season; the long-term value of and demand for our products in various strategic markets; operational trends, including those related to sales of consumables, royalty revenues and inventory levels; our business outlook and projections about revenues, cash flow, system shipments, expenses and market conditions, and their anticipated impact on the Company; information regarding development, timing and performance of new products; and, any statements of the plans, strategies and objectives of management for future operations.

These forward looking statements speak only as of the date hereof and are based on our current beliefs and expectations and are subject to known or unknown risks and uncertainties some of which are beyond the company's control that could cause actual results or plans to differ materially and adversely from those anticipated in the forward looking statements. Factors that could cause or contribute to such differences are detailed in our annual, quarterly, or other filings with the Securities and Exchange Commission. We undertake no obligation to update these forward looking statements.

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Agenda

Welcome	*Mimi Torrington*
Strategic Direction	*Patrick Balthrop*
Markets & Positioning	*Mike Pintek*
Customer Perspective	Dr. *Andrea Ferreira-Gonzalez*
Customer Perspective	*Dr. Thomas Joos*
Strategic Initiatives	*Russell Bradley*
Platforms and Automation	*Tim Dehne*
Assays	*Jeremy Bridge-Cook*
Financial Performance	*Harriss Currie*
Future Outlook	*Patrick Balthrop*
Q&A	*All*

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Strategic Direction




Patrick Balthrop
Chief Executive Officer

Creating Value For Our Customers And Shareholders

Integration of

- **Science**
- **Engineering**
- **Know-How**

to Deliver Unique

Multiplexing Solutions

Luminex

Creating Value For Our Customers And Shareholders

Luminex Strengths

- xMAP® Technology
- Engineering Design and Development
- Assay Group Mol Dx Capabilities
- Regulatory Compliance
- Lean Manufacturing

Integration of

•Science

•Engineering

•Know-How

to Deliver

Multiplexing Solutions

Luminex

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Integration of

•Science

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•Know-How

to Deliver

Multiplexing Solutions

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

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Sustainable Competitive Advantages

Platform Product Line Strategy

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

MAGPIX™

LX 200

FLEXMAP® 3D

Platform Differentiation by Customer Needs

50 Plex | 100 Plex | 500 Plex

Bead Differentiation by Customer Needs

SeroMAP

MicroPlex

MagPlex

Custom

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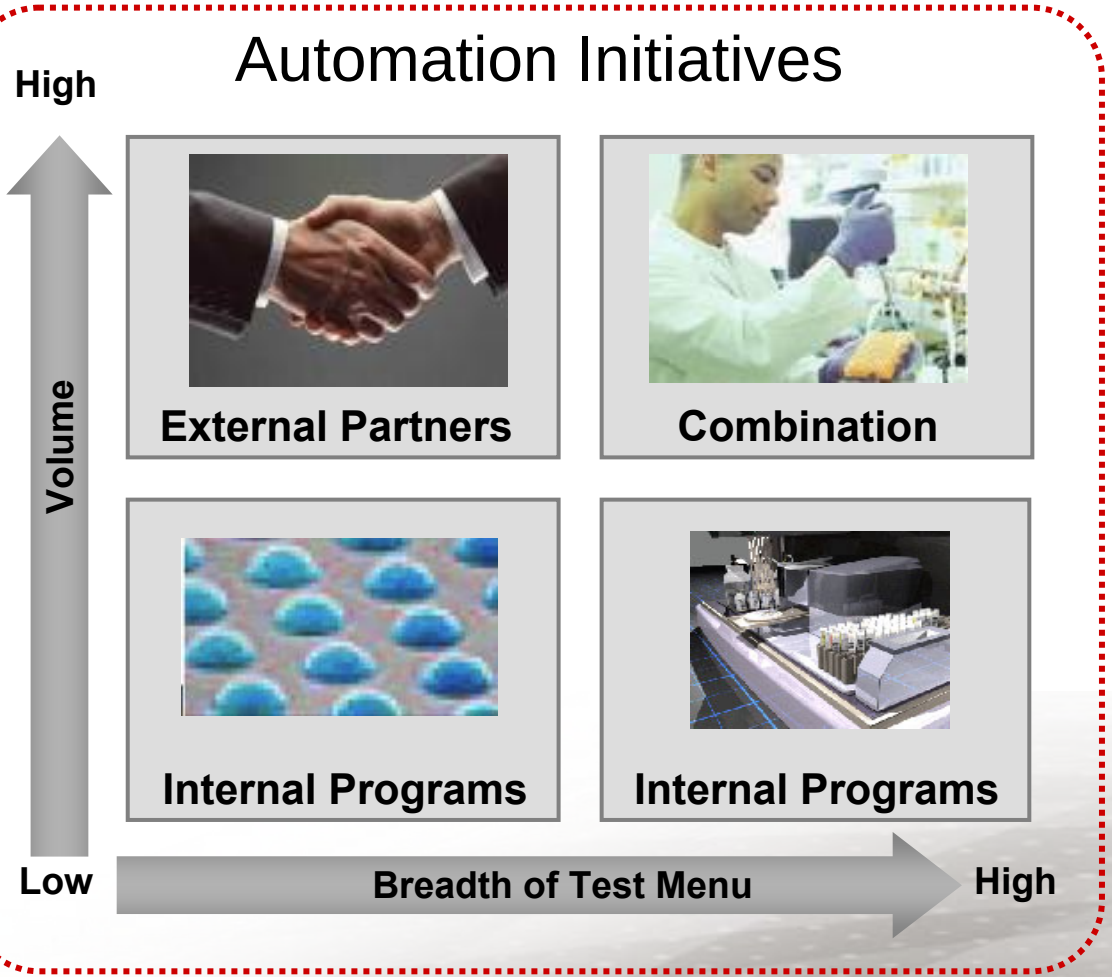
Sustainable Competitive Advantages

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

Automation Initiatives



Sustainable Competitive Advantages

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

- Life Science Research, Low to Mid Multiplexed Proteins
  - Bio Rad, Millipore / Merck KgaA / EMD
- HLA
  - One Lambda, Gen-Probe
- Molecular Diagnostics, Low to Mid Plex
  - CF, AJP, RVP, RVP Fast, Pipeline
- Immunoassay, Low to Mid Plex
  - Bio Rad BioPlex 2200
- Biothreat
  - Lab Response Network, Northrop Grumman collaboration, others

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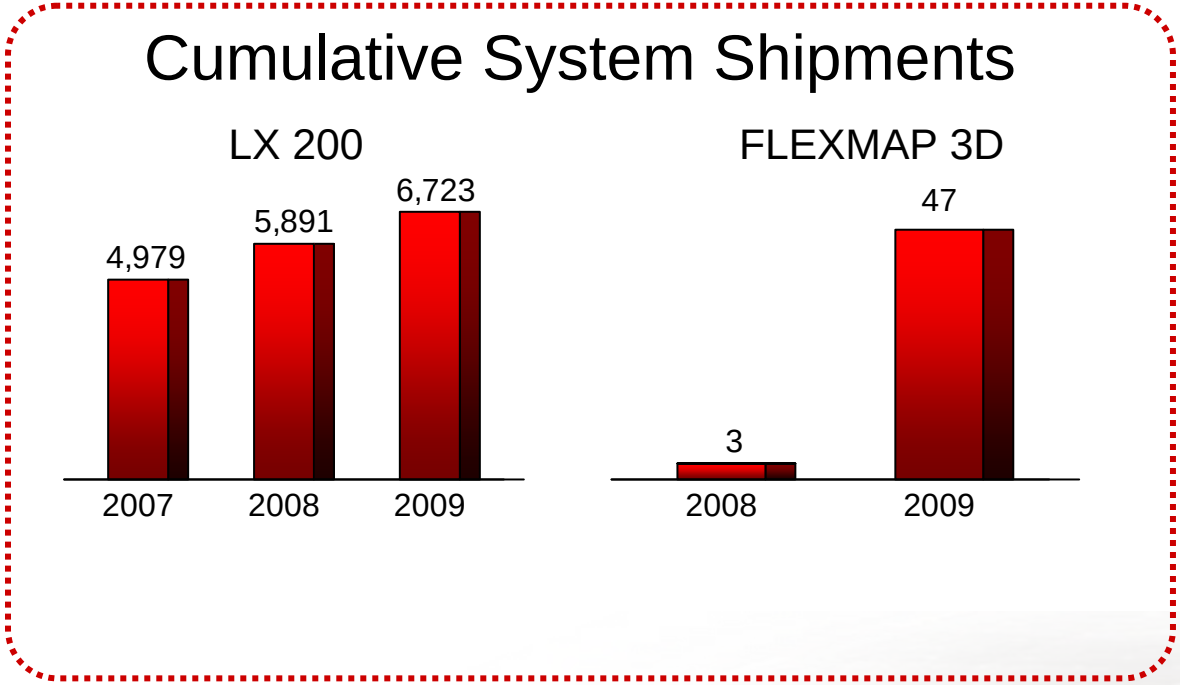
Sustainable Competitive Advantages

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology



Sustainable Competitive Advantages

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

165

100

8.7

Sustainable Competitive Advantages

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

- HLA Example: Customer Need-Driven
  - One Platform, Nucleic Acids and Proteins
  - Market Dominance
- Emerging Opportunities
  - Life Science Nucleic Acids
    - Signatures of 50-500
  - Life Science Proteins
    - Human Proteome: 7,000 → 20,000 → 300,000
  - Biothreat Assays
    - Proteins and Nucleic Acids
  - Automation-Driven Market Restatements
  - Ag Science

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Strategic Direction of Luminex

External Environment: Regulatory & Economic Factors

Sustainable Competitive Advantages

- Multiplexing Solutions
- First Mover Advantage
- Installed Base of Instruments
- Flexibility of Technology

- Luminex Quality System Compatible with FDA QSR
  - Flexibility to operate under different standards where appropriate: LSR, USDA
  - Changes Expected at FDA and CDRH
    - 510K Process, Guidance Documents
    - Specific Outcome TBD, Assume Longer Reviews
    - Leadership Changes
- Economic Factors
  - Diversity of Business a Plus
    - Dx, LSR, Systems, Consumables, Assays
  - 2009: Record Capital Revenue, H1N1
  - History Suggests Luminex Better Positioned

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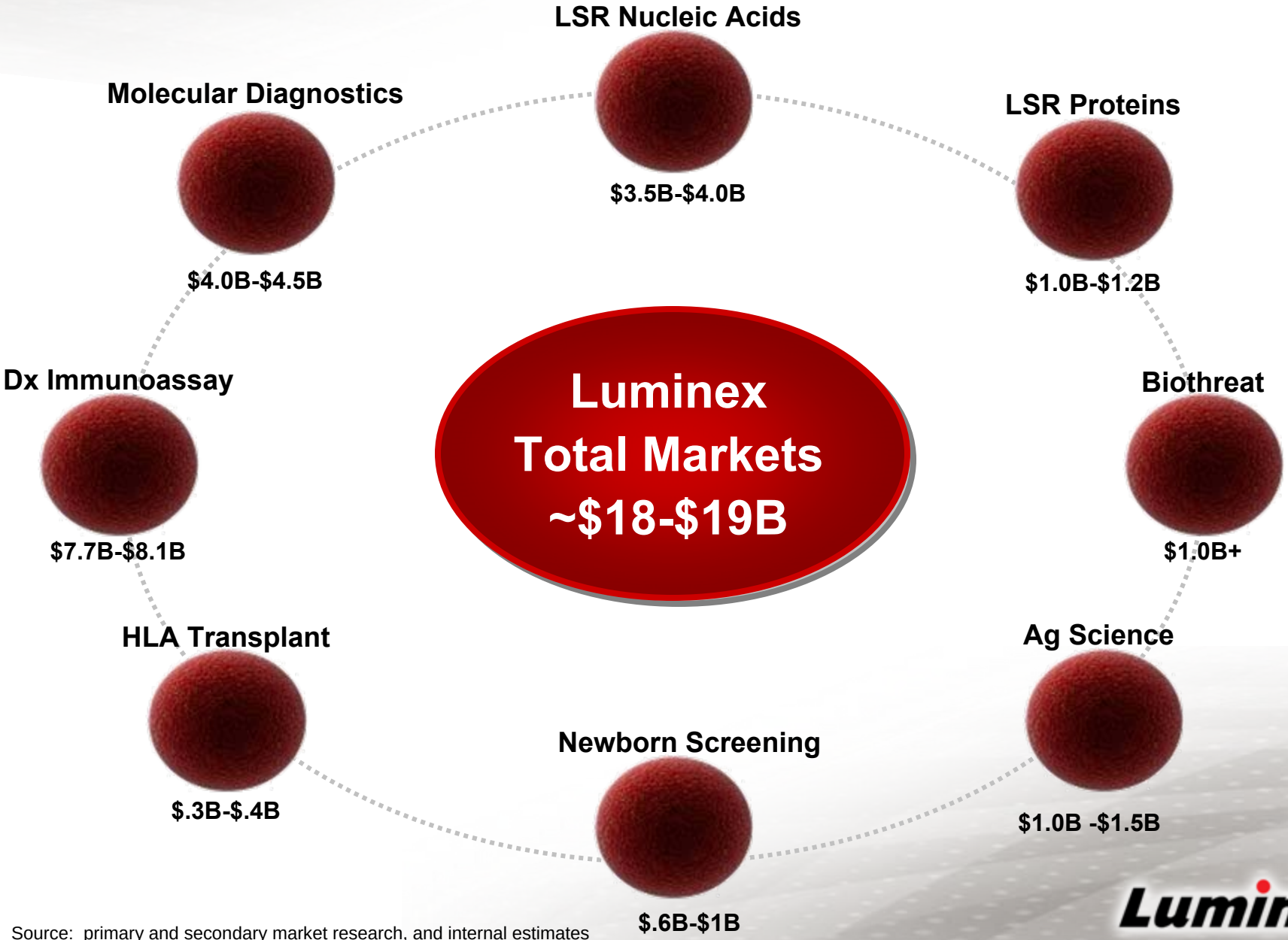
Markets of Multiplexing



Source: primary and secondary market research, and internal estimates

Growth Drivers

Multiple factors driving long-term growth…

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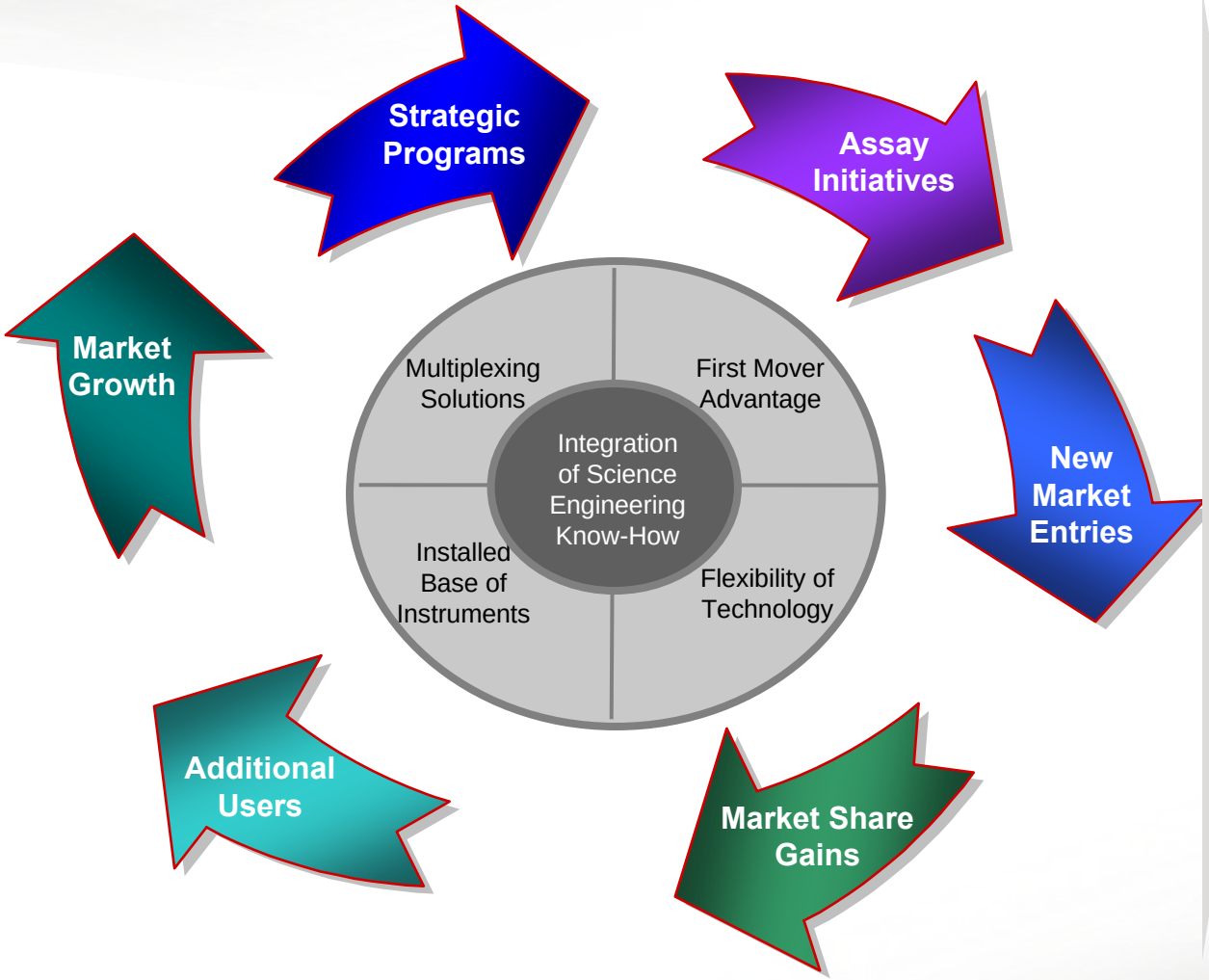
Growth and Value Creation



Luminex Growth and Value Creation

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Target Markets




Mike Pintek
Senior Vice President, Operations

A Bright Future for Luminex
What's Important to Remember?

- Participate in Large Growing Markets
- Growing Market Need for Multiplexing
- Unique Combination of Sustainable Competitive Advantages
- Poised to Outpace Market Growth
- Building a Formidable Market Lead

Patented xMAP Technology Provides Unique Value to Laboratories

Research Market

- Market size: ~$5B
- Customers: Academic and Pharma Labs

Diagnostic Market

- Market size: ~$12B
- Customers: Reference Labs, Hospital Labs

Specialty Markets

- Market size: ~$2B
- Customers: Agriculture and Biothreat

The Power of Multiplexing:

Labor Reduction, More Answers, One Platform, Cost Advantages

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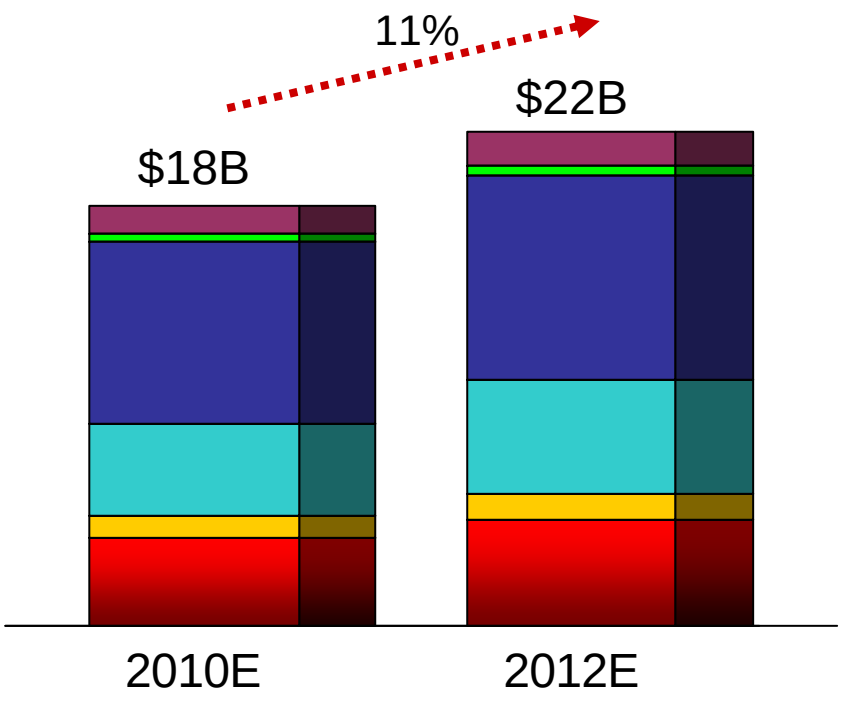
Our Markets are Large and Growing and xMAP® Continues to Gain Share

Global Total Market Size

($ in billions)



	CAGR	
	Market[1]	xMAP[2]
Agriculture / Food Safety	7%	NA
Transplantation/HLA	10%	35%
Immunoassay Dx	6%	>50%
Molecular Dx	12%	>50%
Research Immunoassay	5%	25%
Research Nucleic Acids	10%	>50%

1 CAGR estimates based on primary and secondary market research

2 2 Yr CAGR (2007-2009) based on estimated xMAP end user sales by top 10 partners and LMD

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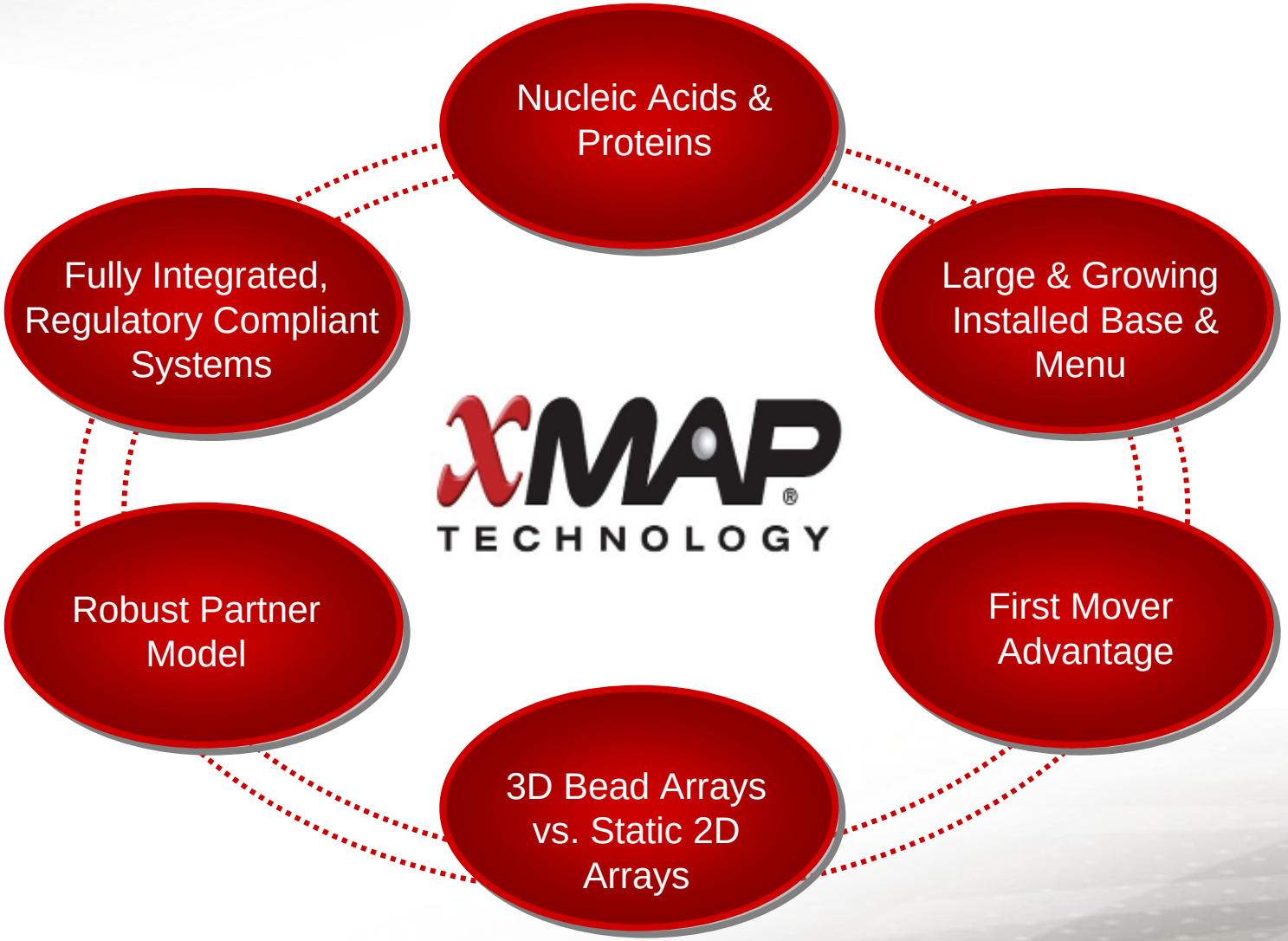
Unique Combination of Strengths Provides Luminex a Sustainable Competitive Advantage Over the Long Term



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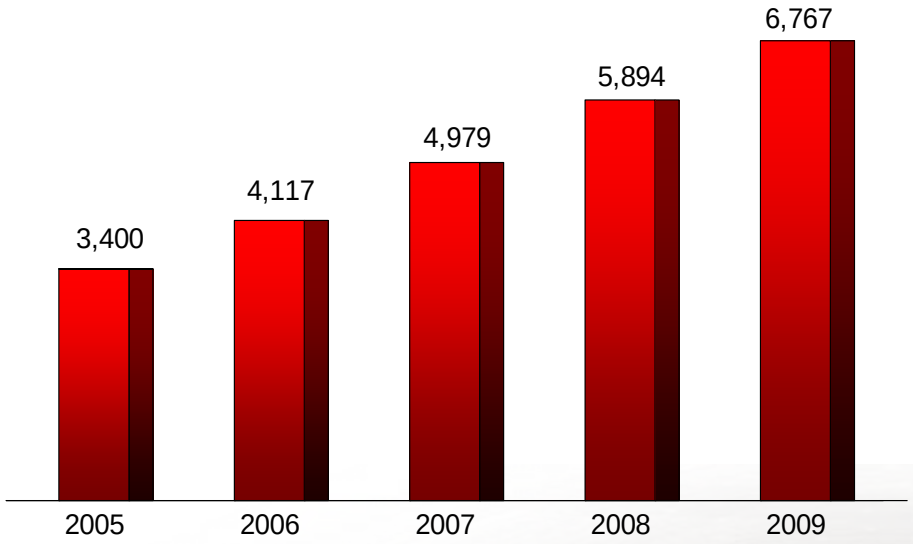
Luminex Today

More than 6,700 instruments shipped globally providing a strong installed base

Cumulative Instrument Placements



Building an Insurmountable Market Lead with Differentiated Systems Tailored to Customer Needs

Proprietary xMAP® Technology

Multiplexing Capabilities

50-Plex
60 minutes

MAGPIX™

100-Plex
45 minutes

LX 200

500-Plex
20 minutes

FLEXMAP® 3D

Price and Throughput

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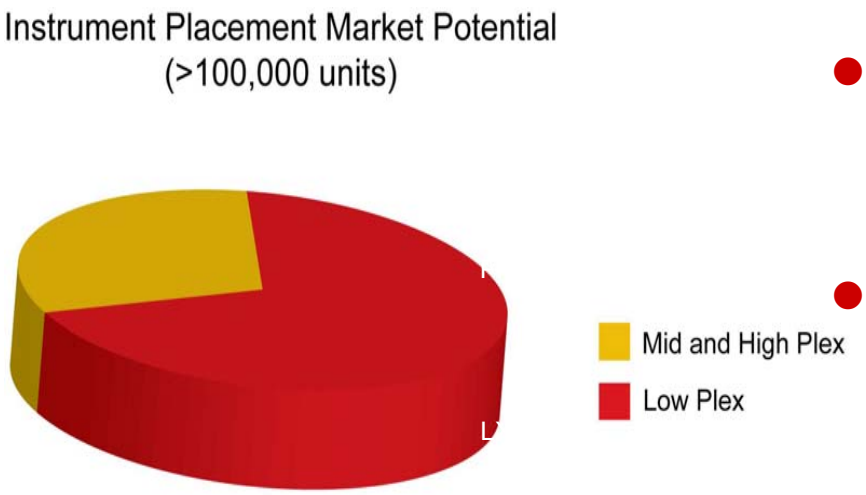
The MAGPIX™ Advantage
Building An Insurmountable Market Lead



Overcoming “Singleplex Syndrome”

- Bridges the gap between single and multiplexed assays on the same platform
- Small footprint, ease of use, remote training, lower cost of adoption and instrument robustness fosters global accessibility
- Significant opportunity in addressing needs of underserved markets
  - ELISA and Western Blot Markets
  - Developing regional markets

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Our Key Market Segments

Life Science Research

Transplant / HLA Testing

Molecular Diagnostics

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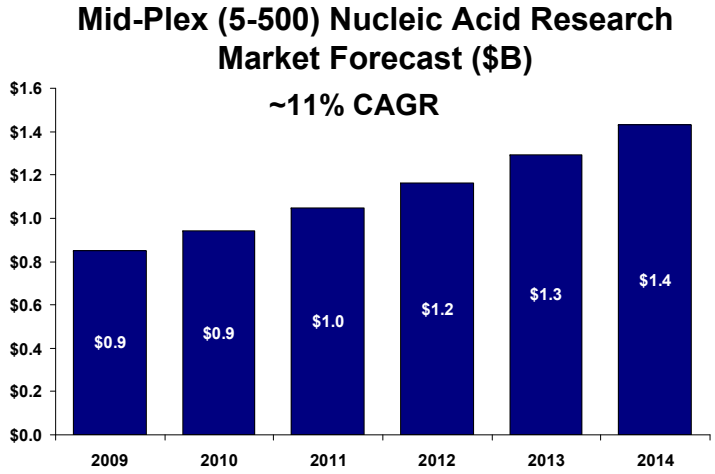
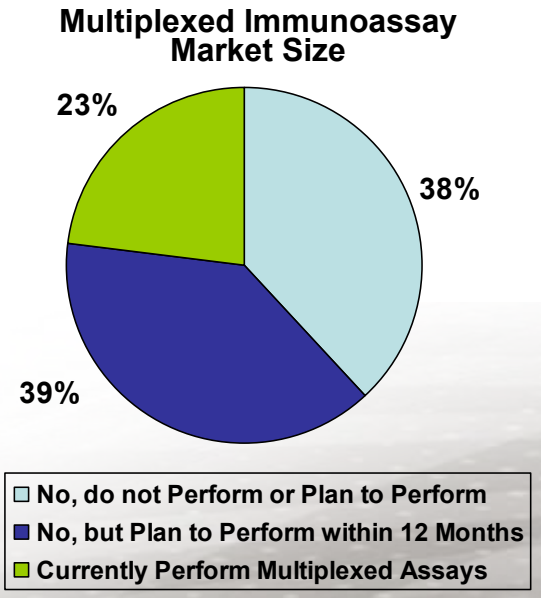
Life Science Research Market

- Need to analyze the continuum from genes to proteins
- Significant growth of the mid-plex nucleic acid market expected
- 39% of customers surveyed plan to perform multiplexing within the next 12 months
- Accelerated growth in developing regions around the world
- Initial market for MAGPIX with significant incremental placement opportunity





Source (Mid-Plex): 2009-09 Third party consultant study

Source Multiplexing: *Immunoassays: An End User Survey Exploring Current Trends and Future Opportunities, Biocompare, May 2008*

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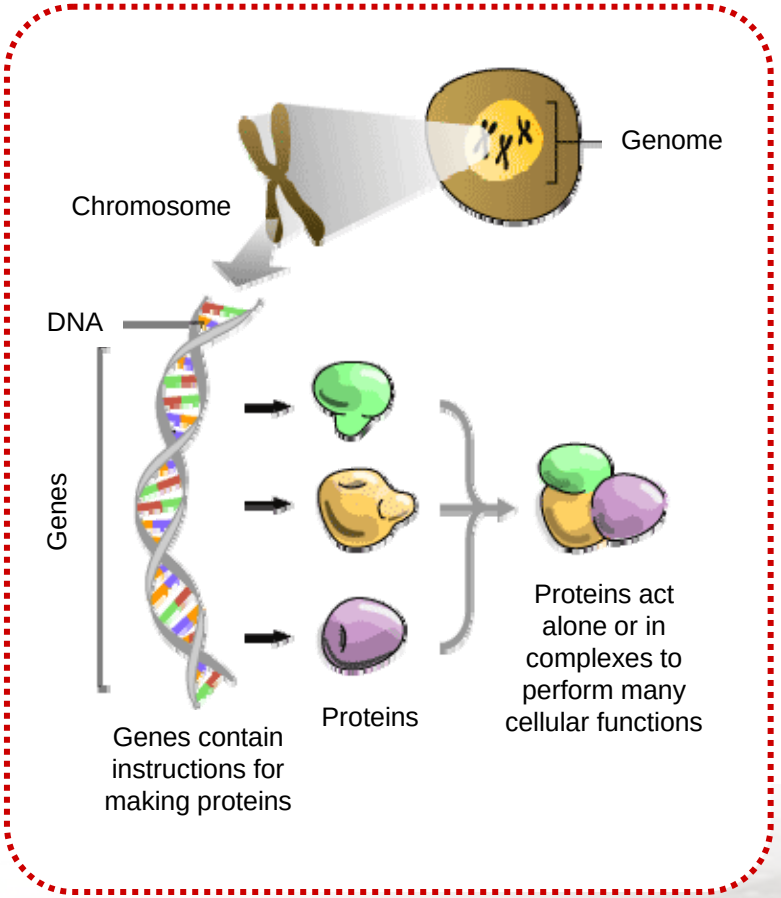
From Genes to Gene Function to Proteins

- Luminex is uniquely positioned to capitalize on the shift from analyzing genes and proteins in isolation to understanding the relationships between them.
  - xMAP is capable of both nucleic acid and protein analysis applications, enabling researchers to study the entire continuum from the genotype to the expressed phenotype with a single detection platform.

- Genotyping
- Epigenetics
- Gene Expression
- Non-Coding RNA
- Protein Expression



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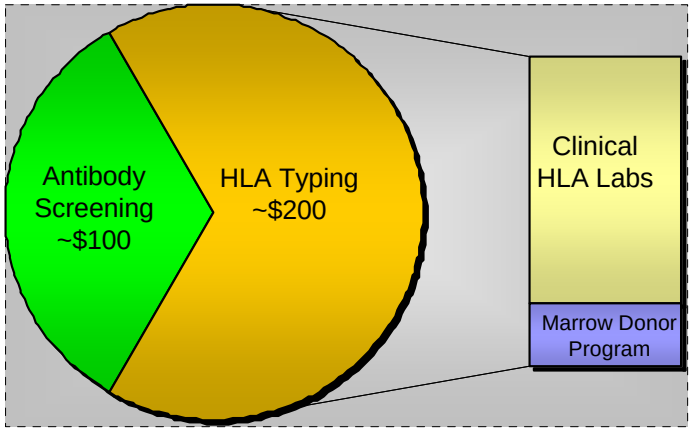
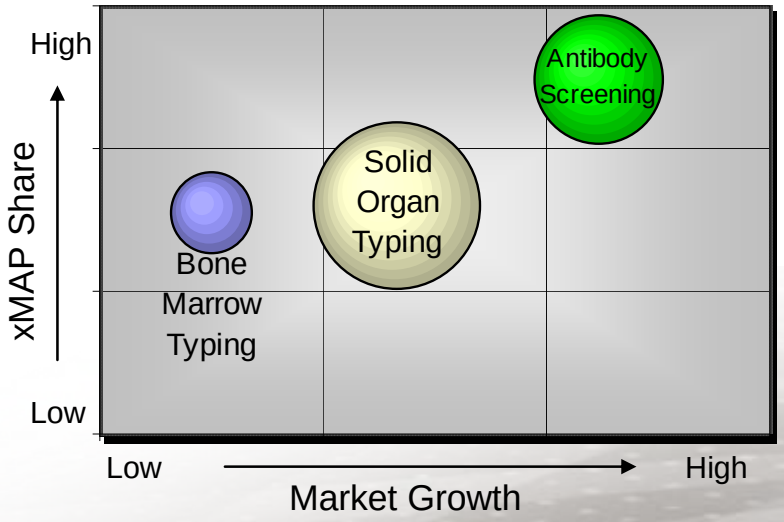
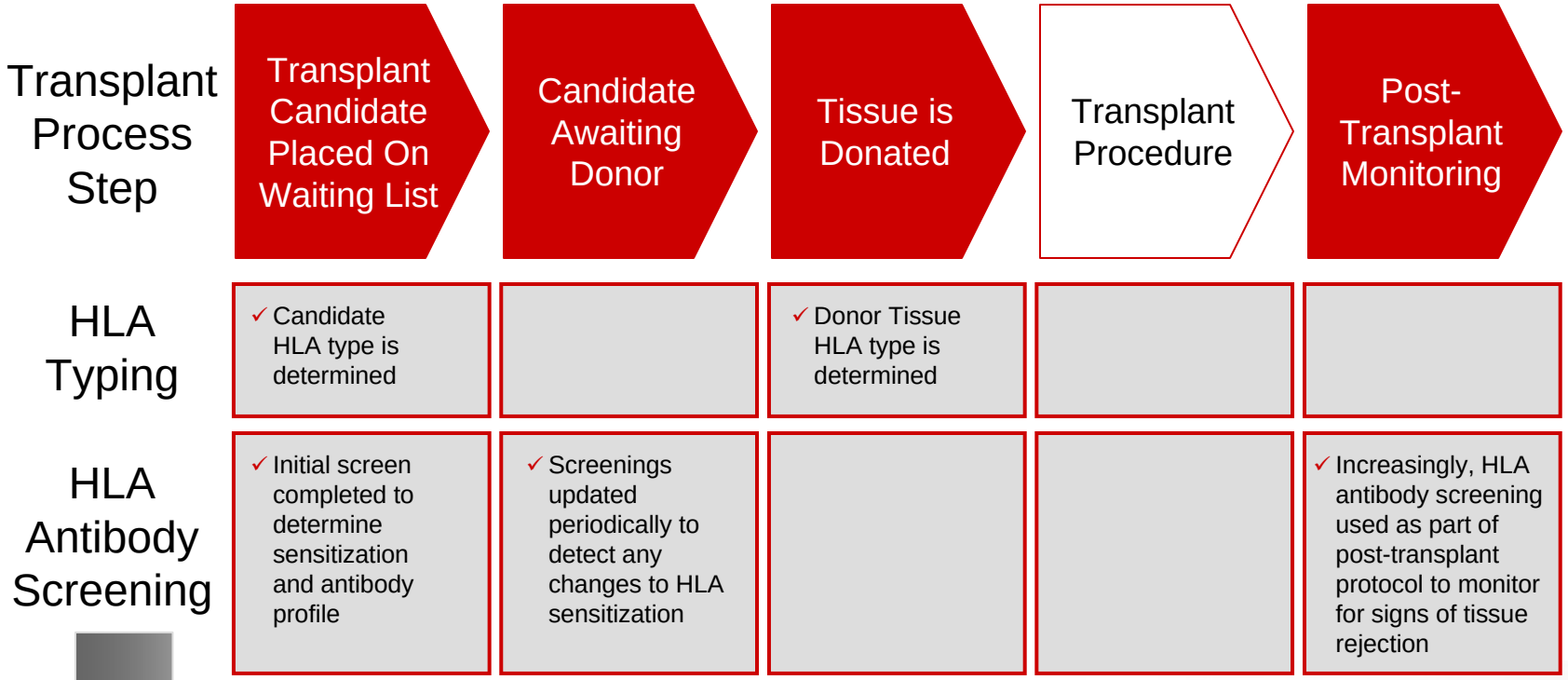
Transplant/HLA Testing Market

- Market leading position via partners One Lambda and Gen-Probe
- FLEXMAP 3D meets increasing demand for high resolution genotyping
- Rapid growth in the antibody screening market, for both pre- and post transplantation
- xMAP brings multiplexed protein (antibody screening) and nucleic acid (genotyping) analysis to the clinical market in broadly accessible applications





xMAP® has "Revolutionized the HLA Antibody Screening Market"



Multiplexing affords clinicians a higher degree of precision to determine which HLA antibodies are present, leading to improved transplantation outcomes.

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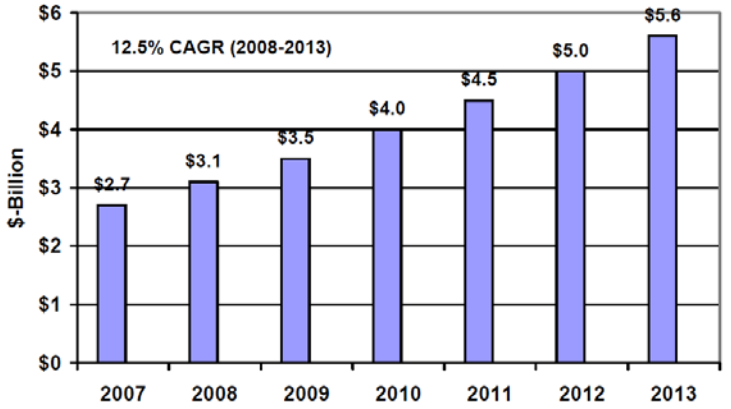
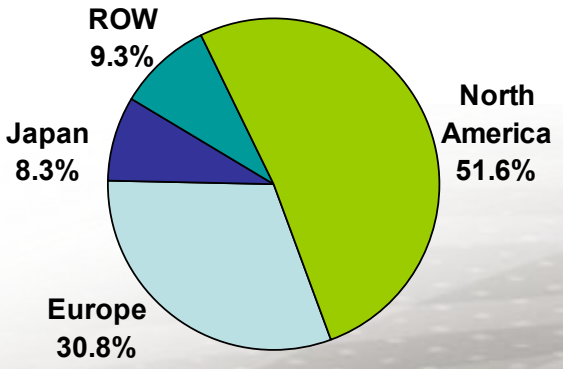
Molecular Diagnostics Market

- Need for IVD cleared automation
- IVD status provides evidence of clinical performance, easier assay validation, and a clearer path to reimbursement
- Need for multiple analytes to better diagnose disease states and co-infections
- Increasing use of gene expression for diagnosis, patient stratification and treatment selection

Historical and Projected Worldwide Sales of Molecular Diagnostic Products
2007-2013 ($-Billion)



Worldwide Molecular Diagnostics Market
by Geographic Region, 2008



Source: 2009 EAC Molecular Diagnostics Report

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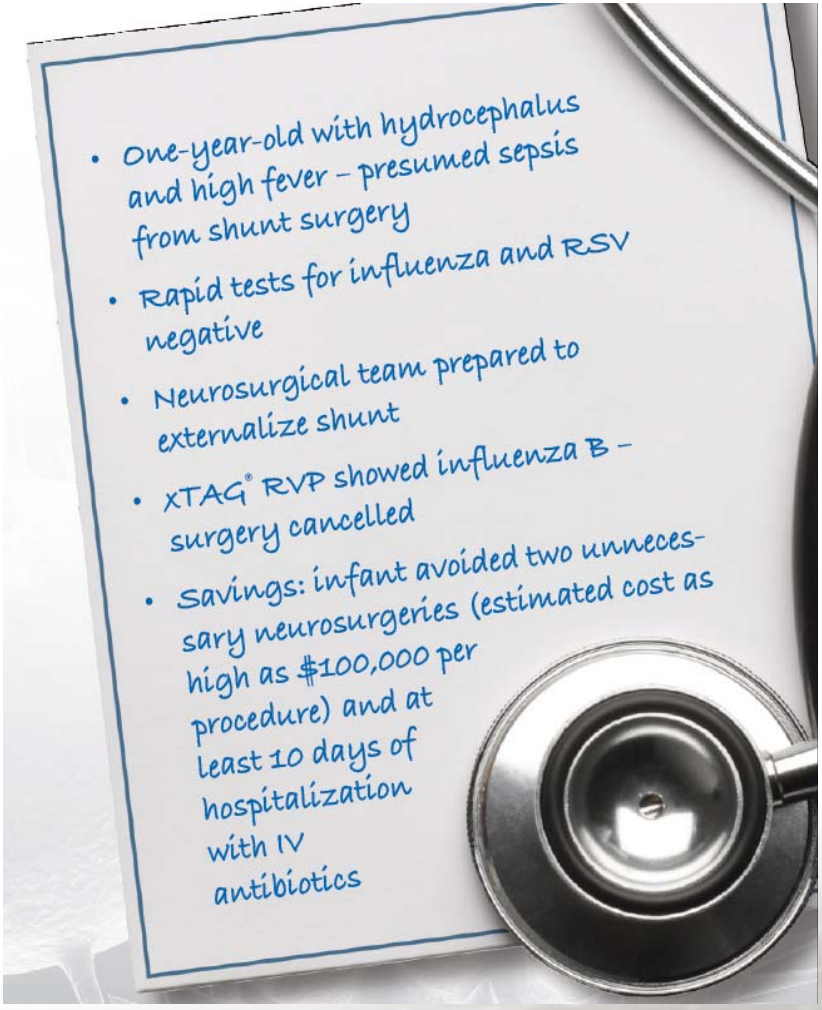
Luminex's Multiplex Technology Making a Difference Everyday

- Multiplexing gives clinicians more comprehensive diagnostic information
- Better diagnostic information means more informed and targeted treatment
- Luminex products are making a difference in patient outcomes and reducing healthcare costs



Professor of Pediatrics, Microbiology and Immunology
Medicical University in New York

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Luminex Advantage
Growing an Insurmountable Lead

Positioned for Growth	• Life Science Research • Diagnostics • Specialty Markets
Large and Growing Install Base	• Serves as a strong foundation as we add content through our product pipeline and partners
Comprehensive Offering	• Most comprehensive instrument portfolio offering low, medium and high plex
Nucleic Acids and Proteins	• xMAP® Technology incorporates both nucleic acids and proteins on one platform
Making a Difference	• Luminex solutions have a demonstrated track record in making a difference in patient outcomes and reducing healthcare costs

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Luminex Top Priority: Solving Customer Challenges

Luminex

Customer Perspective: Clinical Diagnostics




Andrea Ferreira-Gonzalez, PhD
Professor of Pathology and Director Molecular Diagnostics Laboratory, VCUHS Richmond VA

Past, Present and Future Trends in Molecular Diagnostics

Andrea Ferreira-Gonzalez, PhD
Professor and Chair
Division of Molecular Diagnostics
Director Molecular Diagnostics Laboratory
Department of Pathology
Virginia Commonwealth University Health system
Richmond, VA

Transplantation

Infectious Diseases

Solid Tumors, Sarcomas

Coagulopathies
Hemoglobinopathies

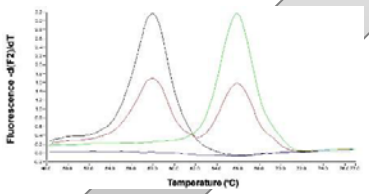
Leukemias,
Lymphomas

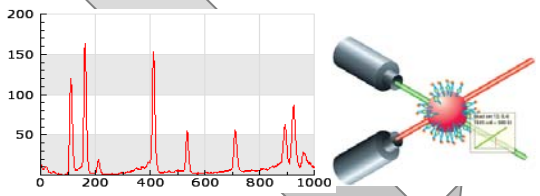
Neurological disorders,
Neuropathology

Drug Metabolism

Patient
Sample:
Blood,
Tissue

Molecular Pathology



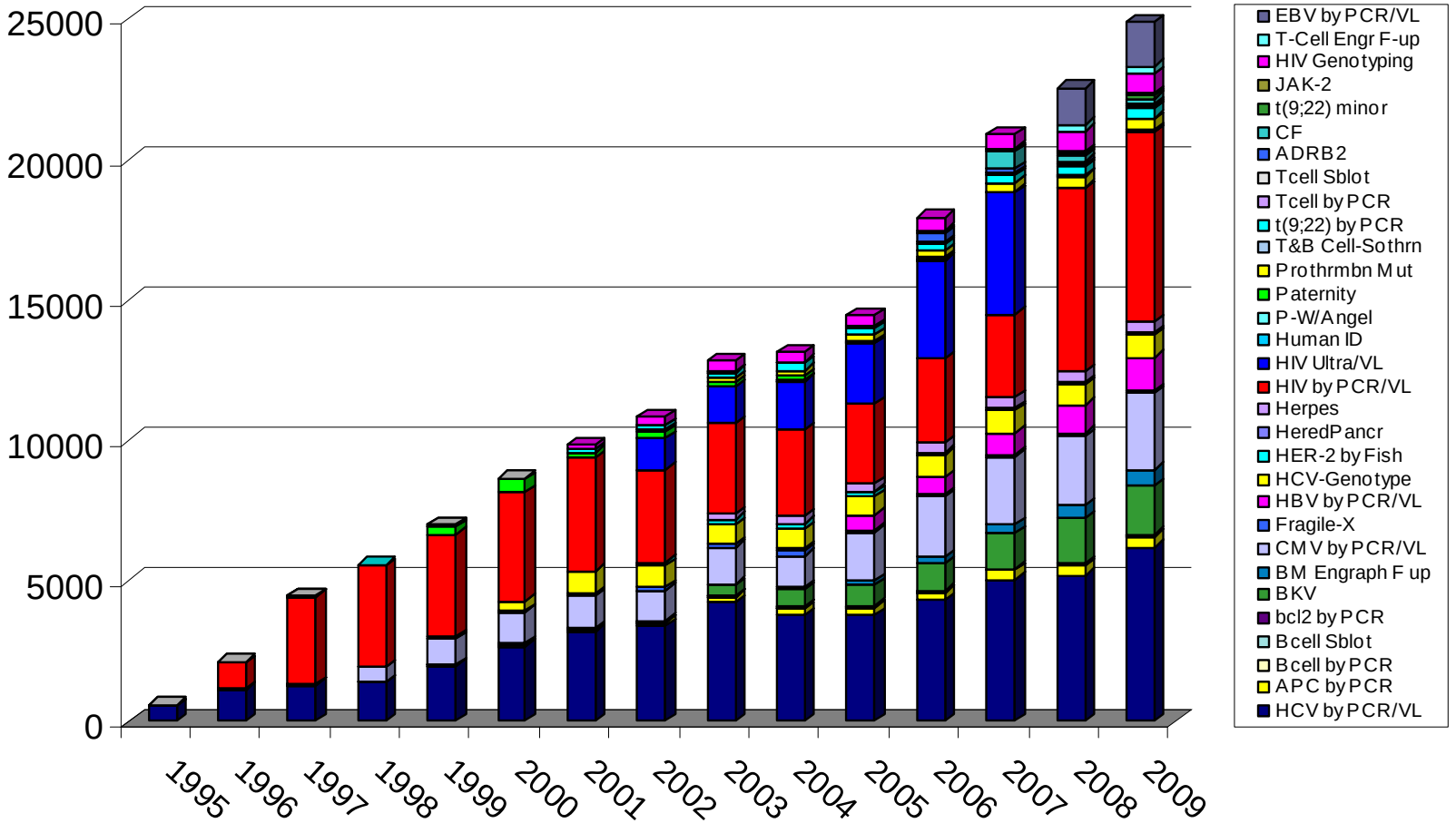


Training

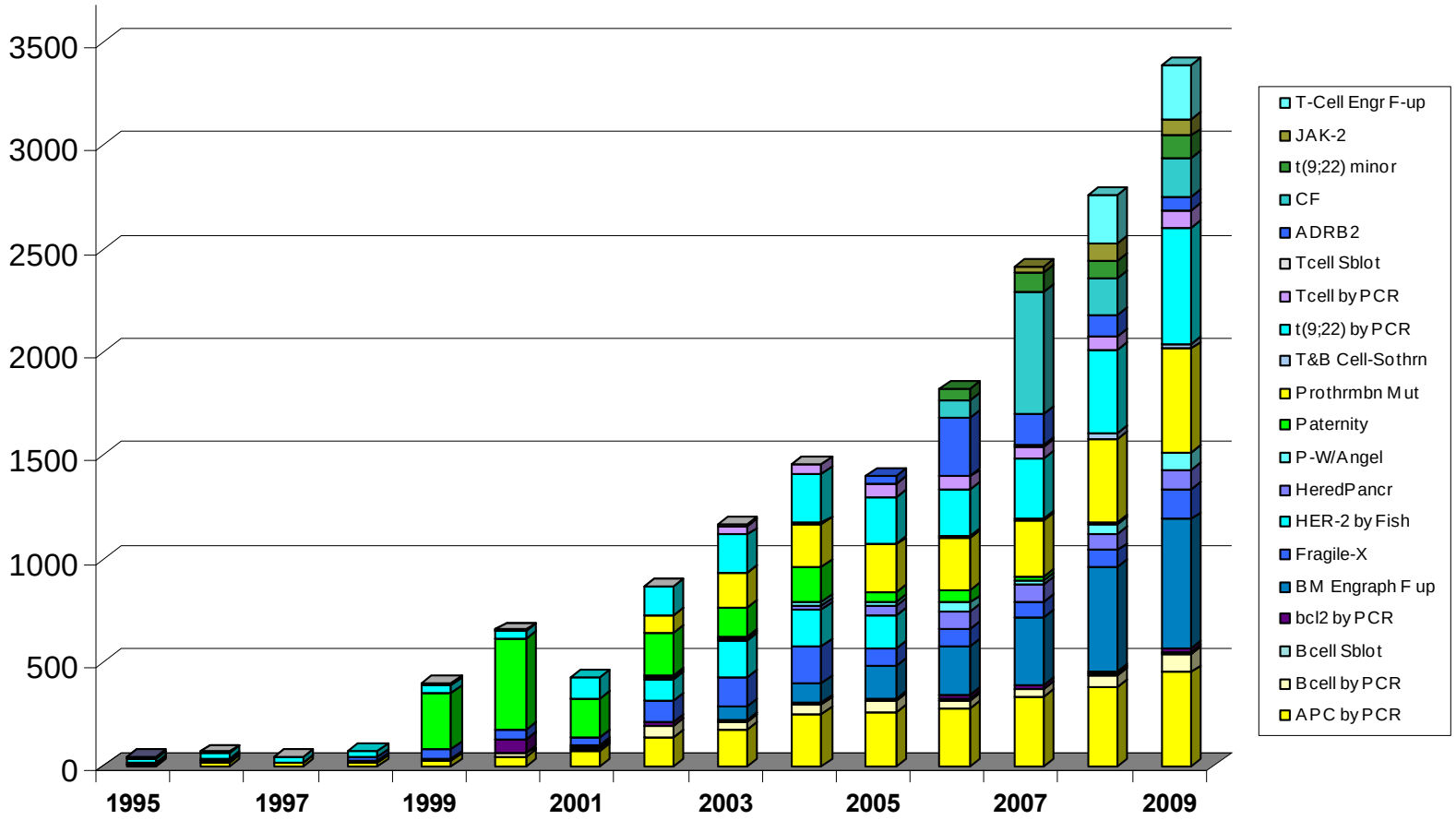
Diagnosis

Translational
research

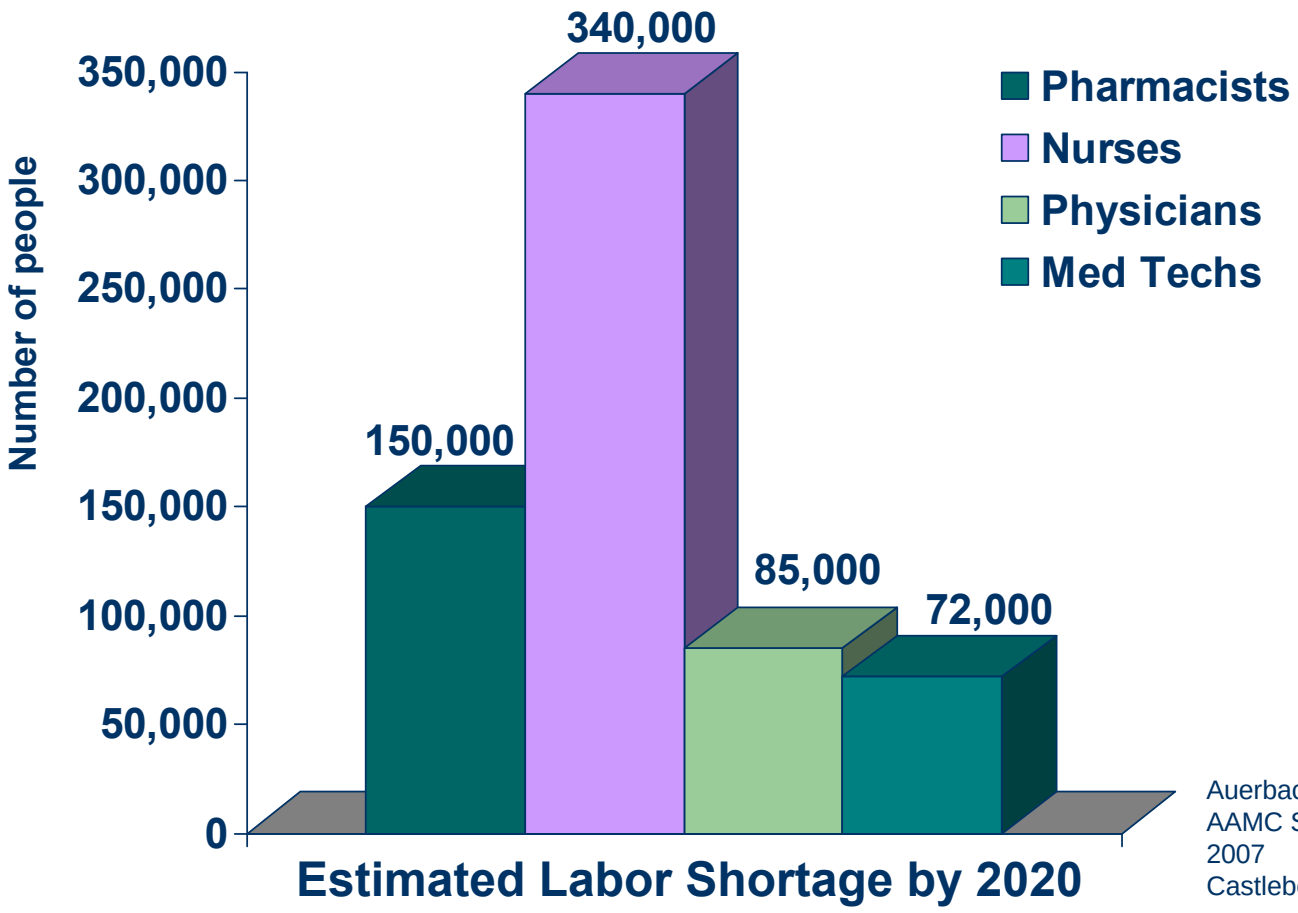
MDx utilization at VCUHS



Inherited and somatic genetic testing at VCUHS



Predicted Labor Shortage by 2020



Auerbach, D. Health Affairs. 26(1), 2007:178
AAMC Study on Physician Shortage, August 2007
Castleberry BM, Lab Med 30, 1999: 174

Drivers of integrated automation

- Declining number of medical technologists, while test volumes increase
- High complexity laboratory testing
- Need for training
- Quality initiates to reduce medical errors
- Declining Medicare reimbursements
- Client expectation
  - Access to new tests
  - Improved TAT

Drivers of Biomarker Testing

- Understanding pathogenesis
- Better diagnosis
- Better prognostic information
- Better understanding of therapeutic response

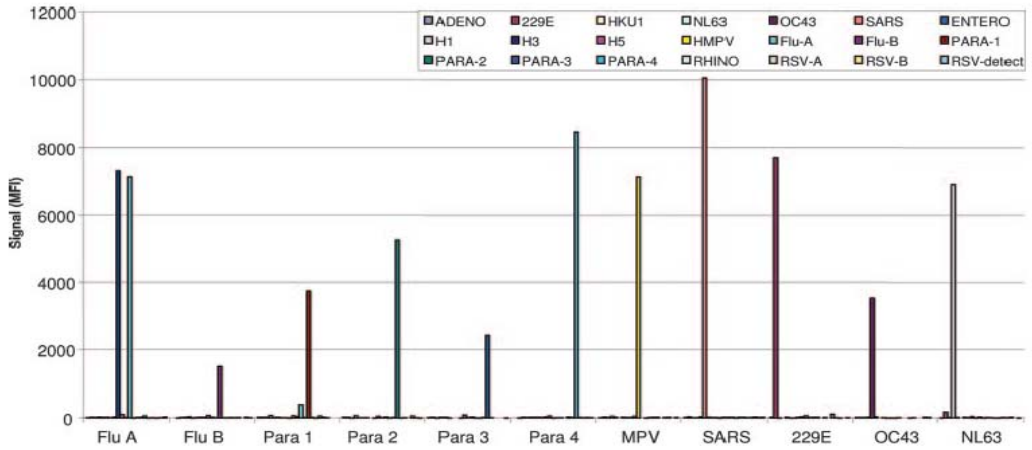
JOURNAL OF CLINICAL MICROBIOLOGY, Sept. 2007, p. 2965–2970 Vol. 45, No. 9
0095-1137/07/$08.00+0 doi:10.1128/JCM.02436-06

Development of a Respiratory Virus Panel Test for Detection of Twenty Human Respiratory Viruses by Use of Multiplex PCR and a Fluid Microbead-Based Assay▽

J. Mahony,[1]* S. Chong,[1] F. Merante,[2] S. Yaghoubian,[2] T. Sinha,[1] C. Lisle,[2] and R. Janeczko[2]

Department of Pathology and Molecular Medicine, McMaster University, and St. Joseph's Healthcare, Hamilton, Ontario, Canada,[1] and TmBioscience Corporation, Toronto, Ontario, Canada[2]

Received 4 December 2006/Returned for modification 4 April 2007/Accepted 17 June 2007



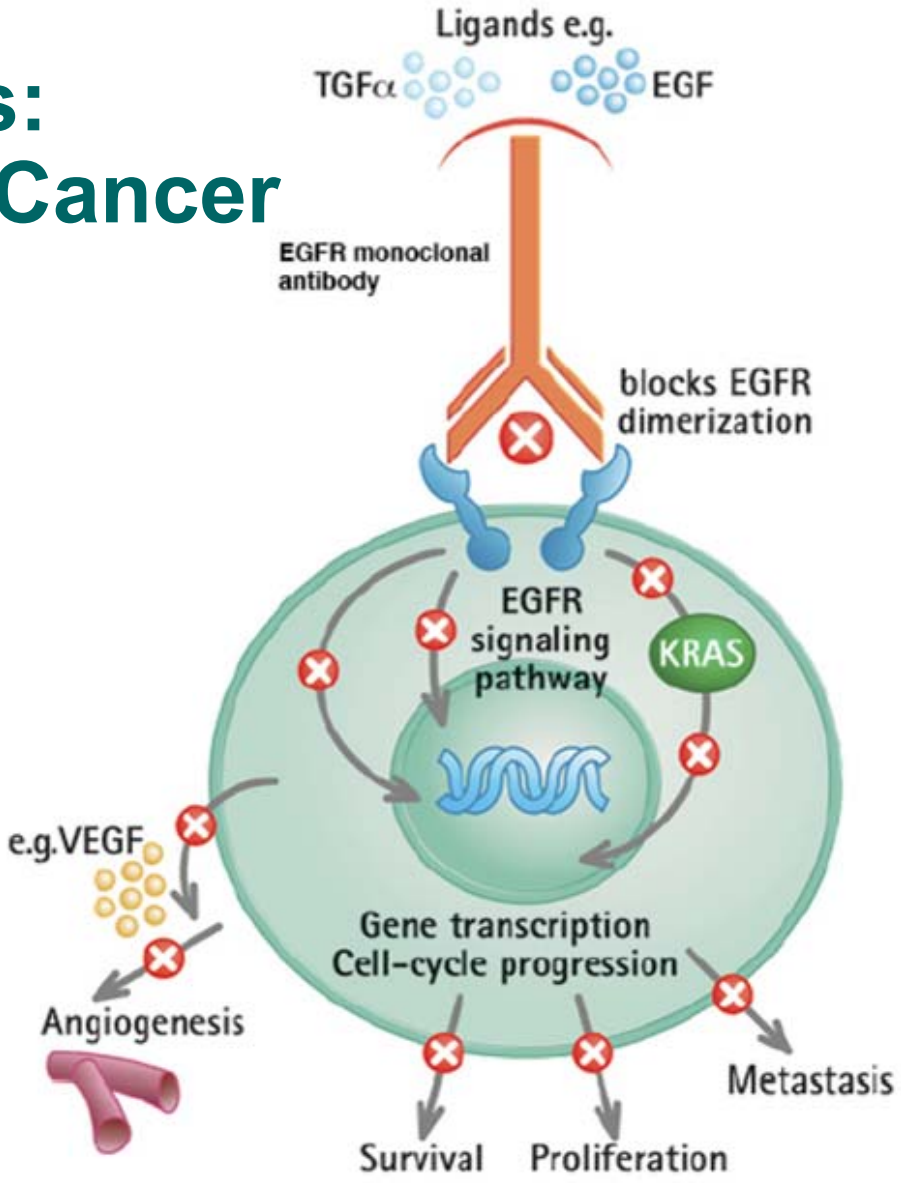
- Liquid bead arrays by target-specific primer extension (TSPE) and microsphere flow cytometry (RVP; Luminex)
- The RVP test yielded 98.5% sensitivity versus 68.8% of clinical specimens by DFA and viral culture
  - Nasopharyngeal swabs from regional virology lab (mostly adults)

Future: Biomarkers for Therapeutics

- Selection for therapeutics
  - Companion diagnostics
- Monitoring of therapeutic response
  - Minimal residual disease testing
- Predicting resistance to therapeutics
  - Markers of tumor resistance

Targeted Therapies: Erbitux and Colon Cancer

KRAS **mutation makes the pathway autonomously active even if the drug is used exposing the patient to unnecessary toxic side effects and expenses.**



Targeted Therapies: Erbitux and Colon Cancer

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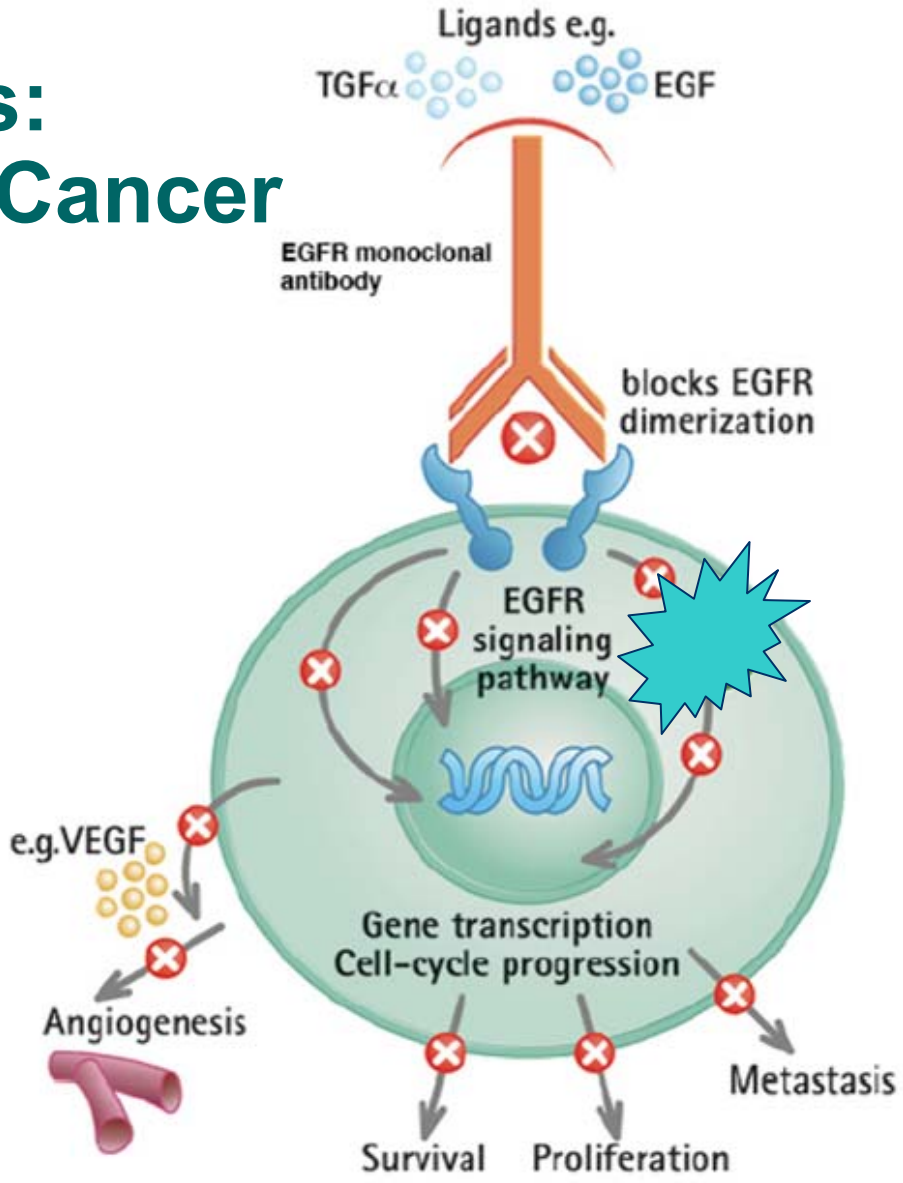

Targeted Therapies: Erbitux and Colon Cancer

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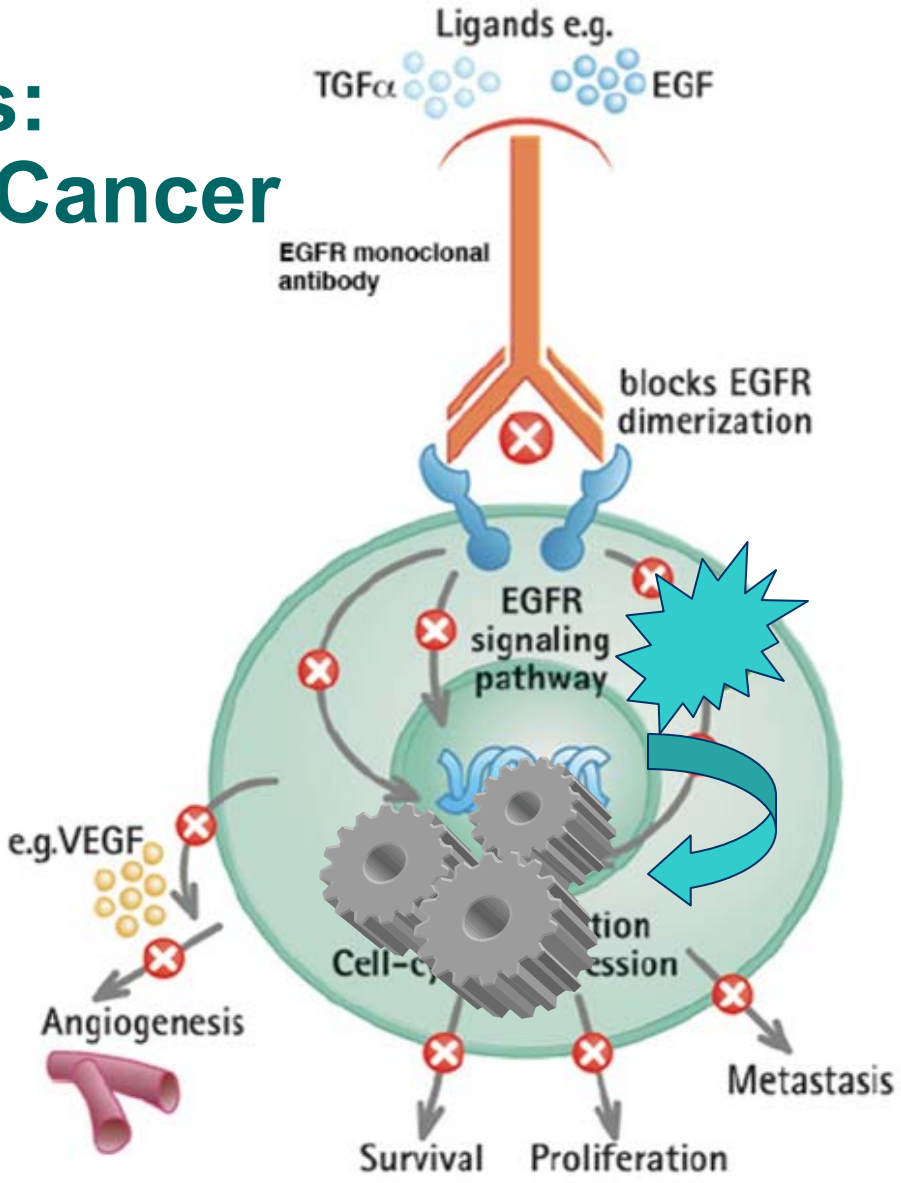
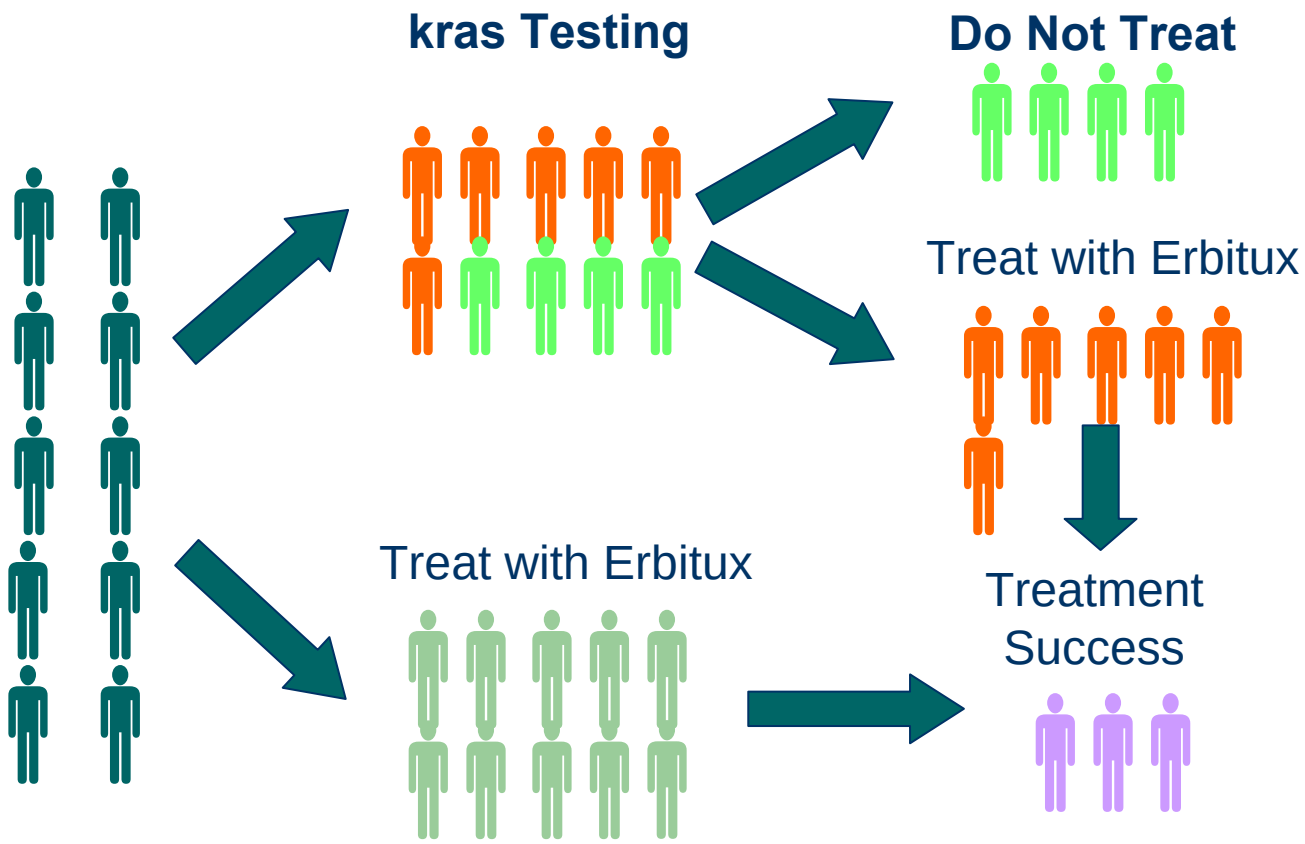
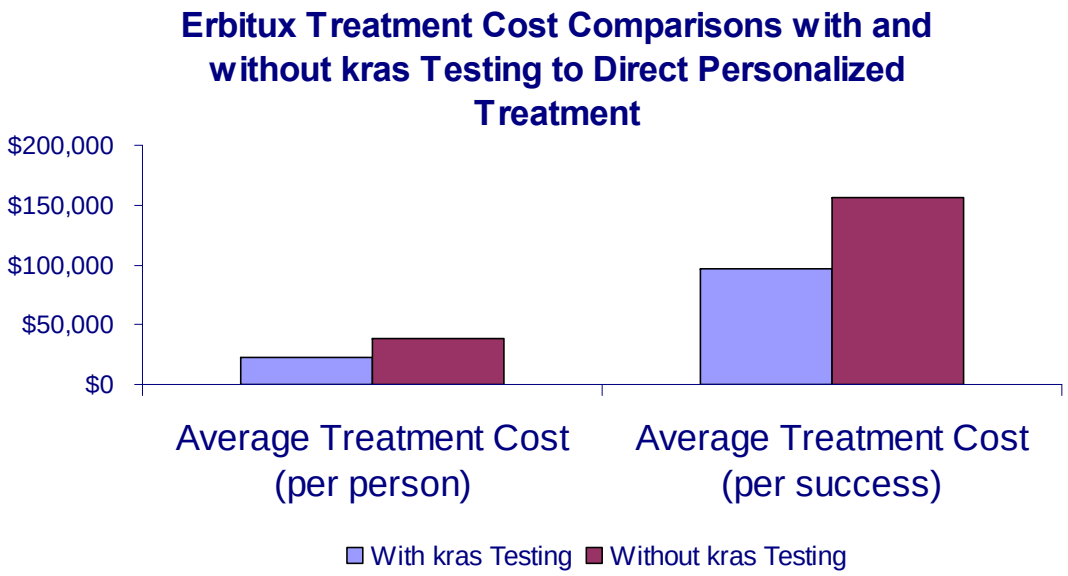


Personalized Medicine Reduces Ineffective Treatment in Colon Cancer



Langreth, R. (2008), 'Imclone's Gene Test Battle', Forbes.com, 16May 2008

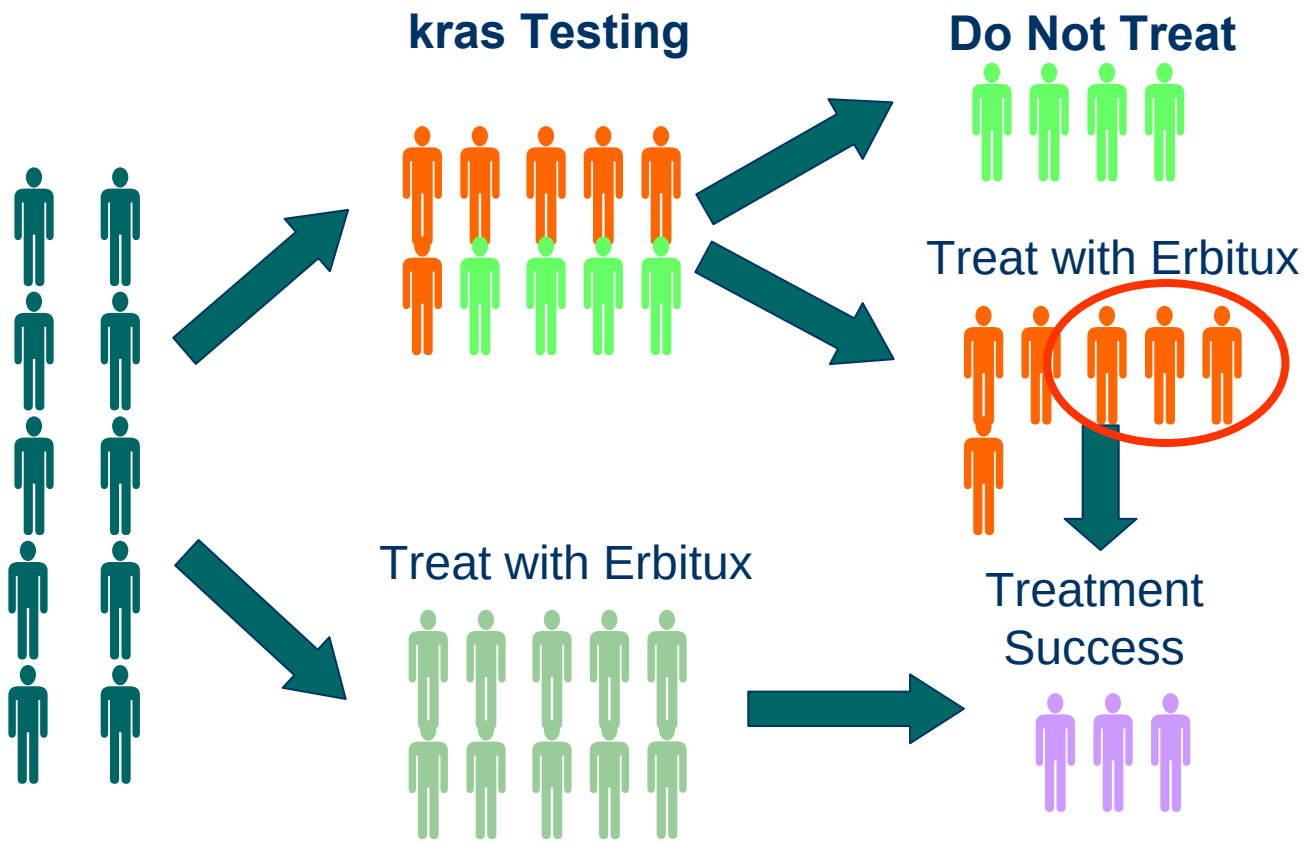
Erbitux Treatment Cost Comparisons with and without kras Testing to Direct Personalized Treatment



- 60% reduction in cost per success
- 40% of patients spared side effects from ineffective treatment
- Overall success rate is unchanged at 25%

Langreth, R. (2008), 'Imclone's Gene Test Battle', Forbes.com, 16May

Personalized Medicine Reduces Ineffective Treatment in Colon Cancer



Langreth, R. (2008), 'Imclone's Gene Test Battle', Forbes.com, 16May 2008

VOLUME 26 · NUMBER 35 · DECEMBER 10 2008

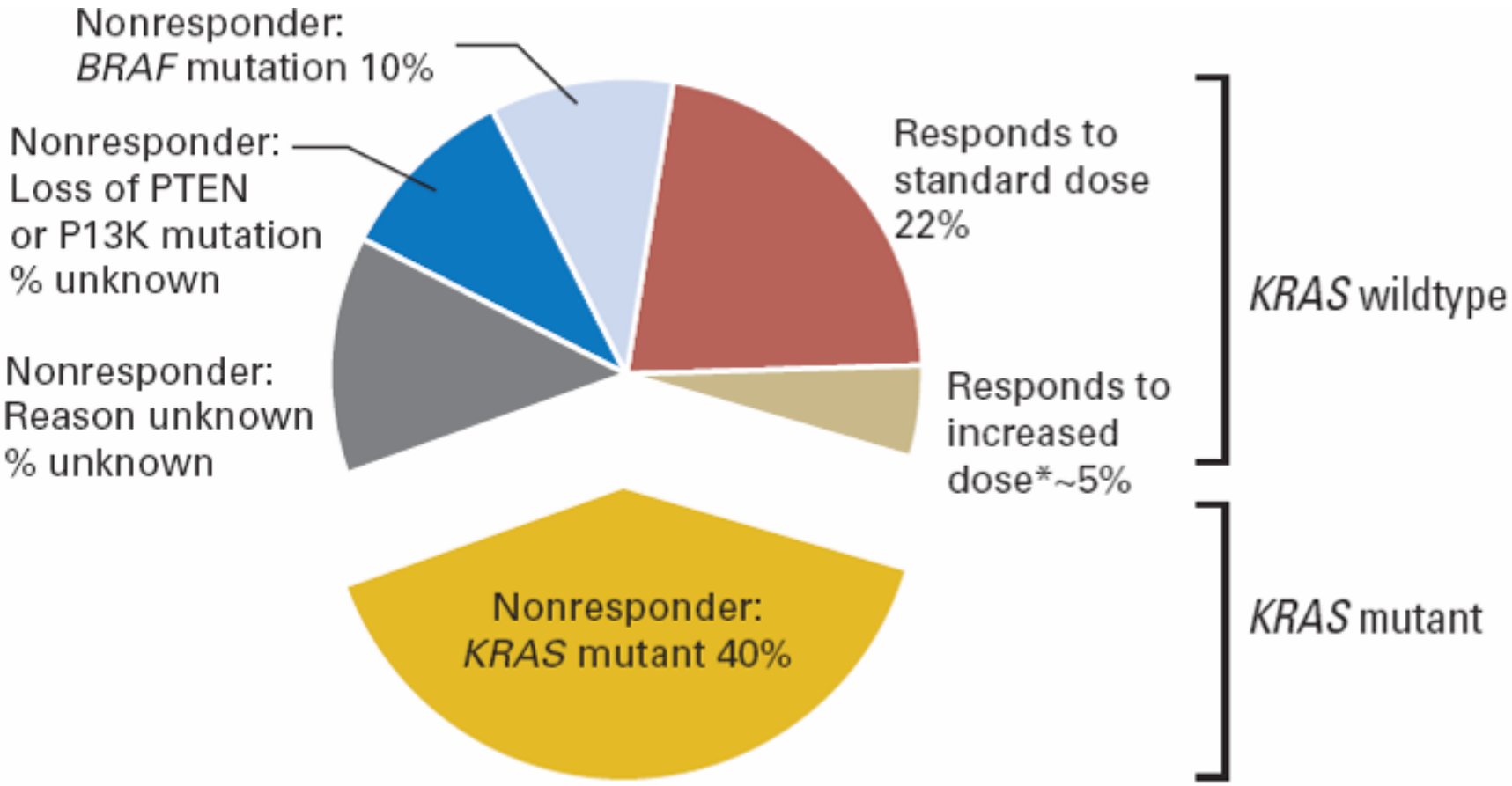
JOURNAL OF CLINICAL ONCOLOGY

EDITORIAL

Using Predictive Biomarkers to Select Patients With Advanced Colorectal Cancer for Treatment With Epidermal Growth Factor Receptor Antibodies

Rachel Wong and David Cunningham, *Department of Medicine, Royal Marsden Hospital, Sutton, United Kingdom*

Journal of Clinical Oncology



Lessons Learned: 50 Years of Medical Research

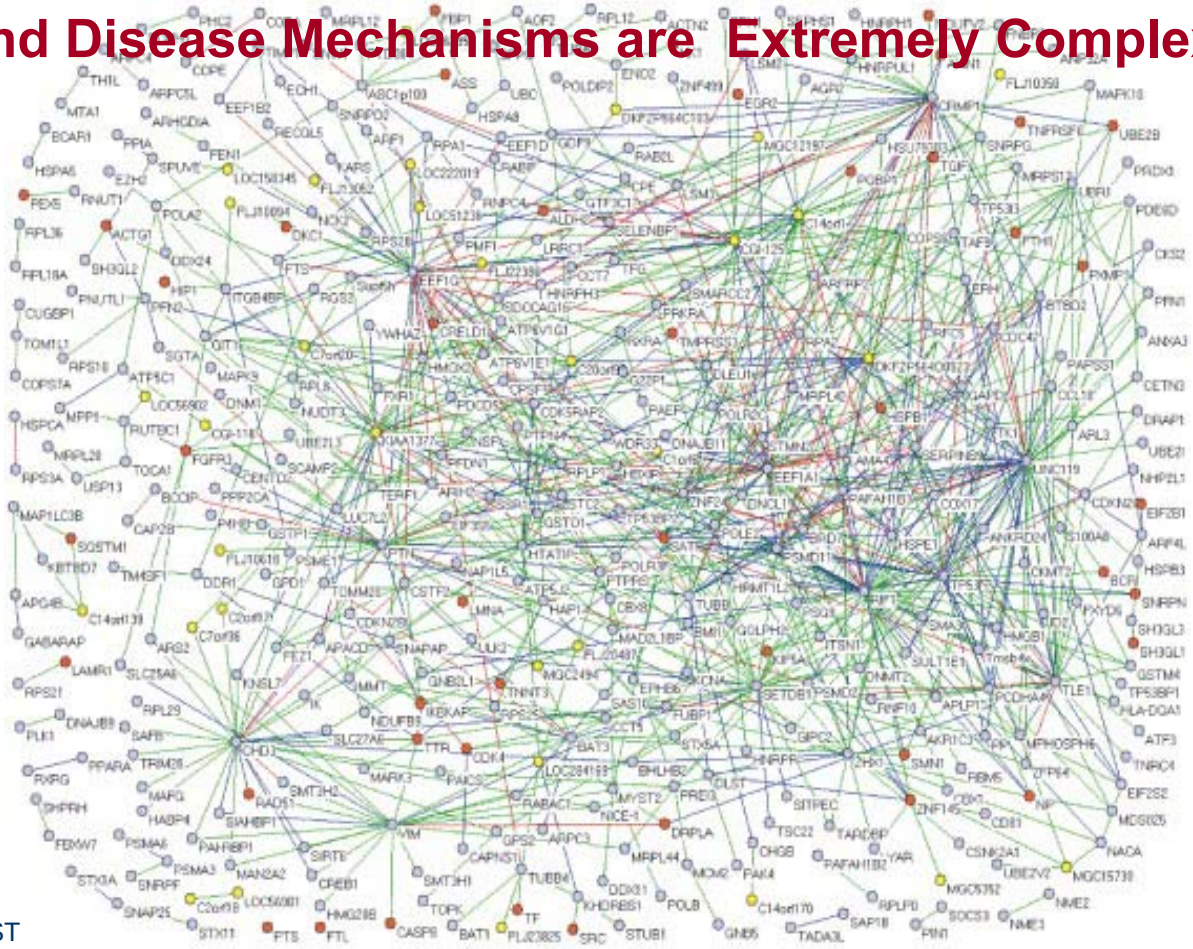
Human Body and Disease Mechanisms are Extremely Complex

100 trillion human cells
216 stem cell lineages
6 billion base pairs of DNA
30,000 genes encoding proteins
10 million total distinct proteins in a person
2000 distinct proteins functioning in a cell
60,000 reactions/cell/minute
100,000's of molecular events
50 or so organs and organ systems

Courtesy Michael Amos, PhD, NIST

Lessons Learned: 50 Years of Medical Research

Human Body and Disease Mechanisms are Extremely Complex



Courtesy Michael Amos, PhD, NIST

Lessons Learned: 50 Years of Medical Research

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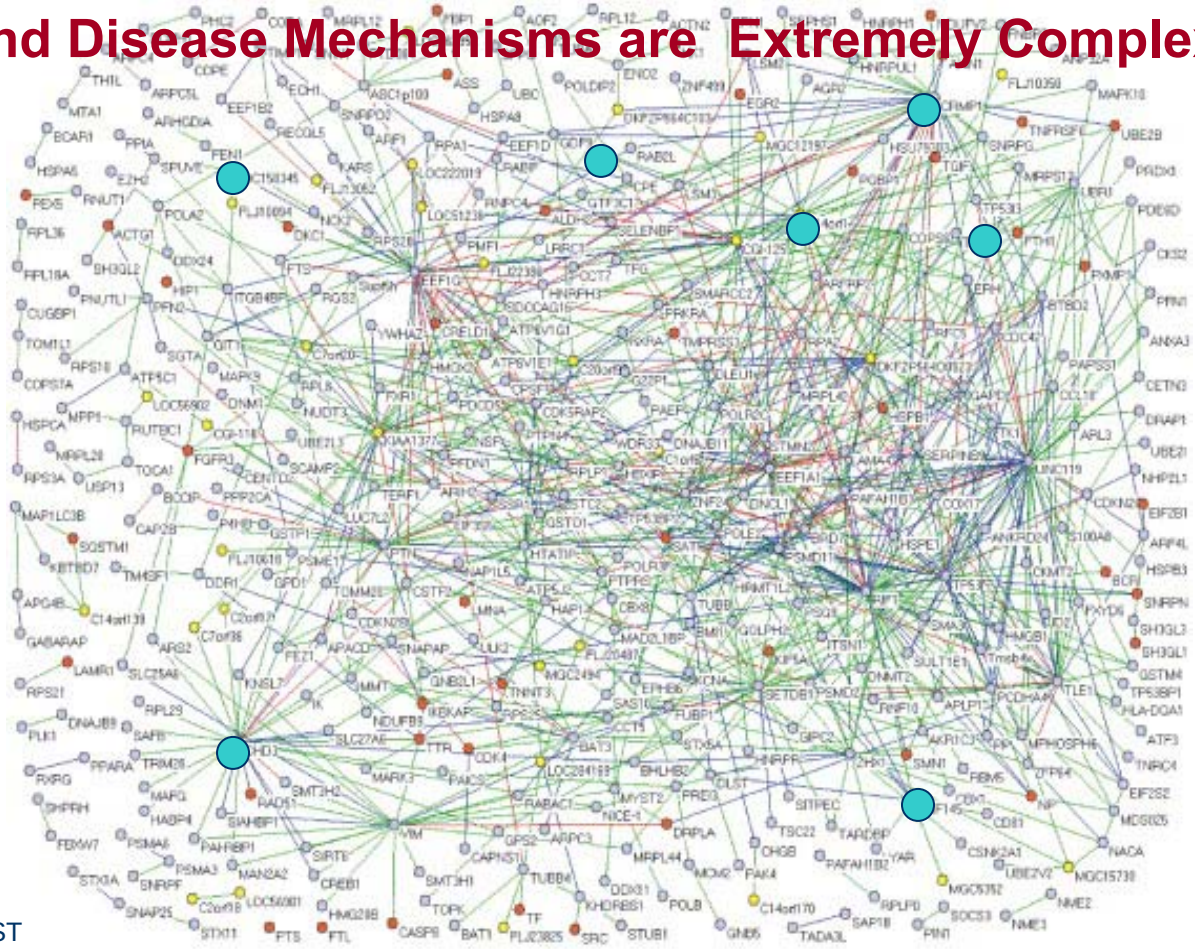
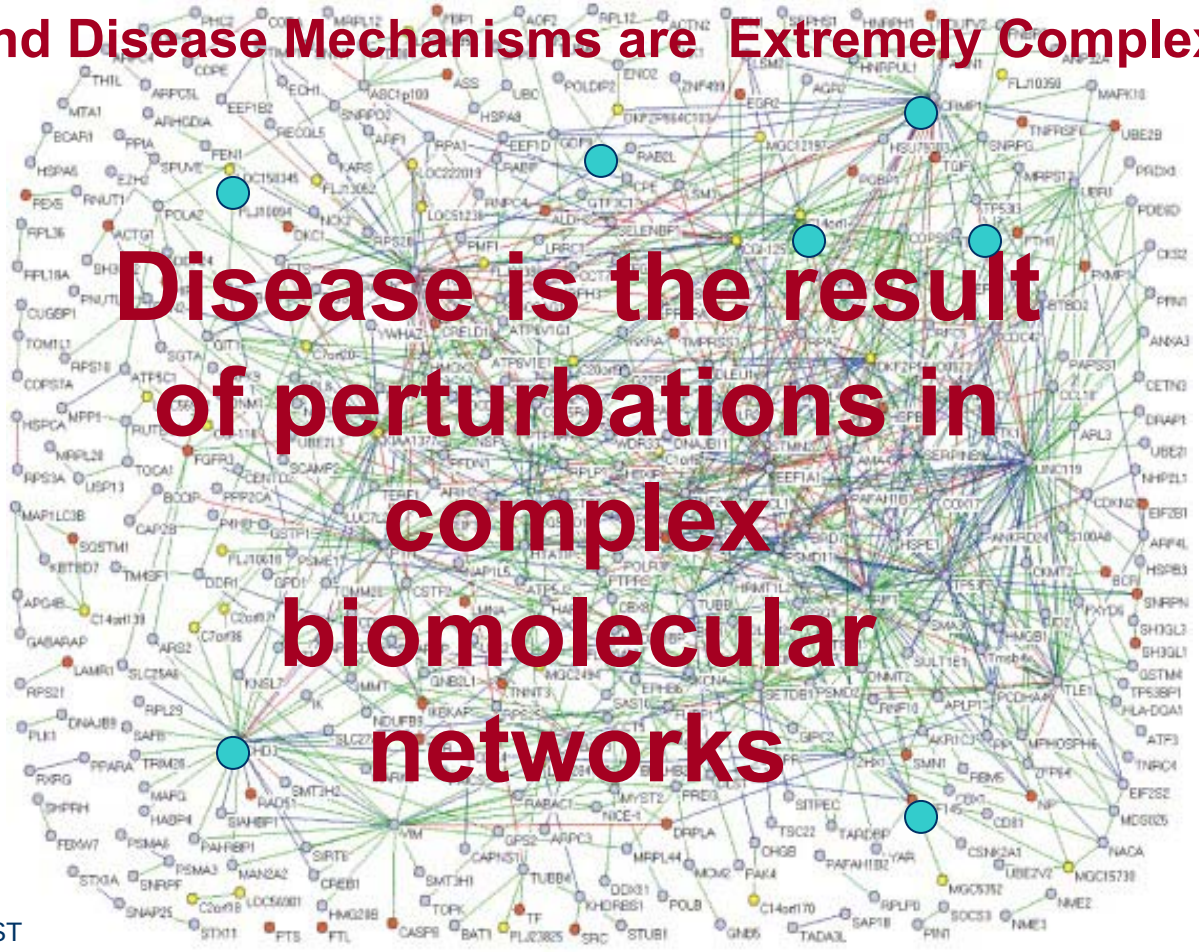


Courtesy Michael Amos, PhD, NIST

Lessons Learned: 50 Years of Medical Research

Human Body and Disease Mechanisms are Extremely Complex



Disease is the result of perturbations in complex biomolecular networks

Courtesy Michael Amos, PhD, NIST

Oversight of Genetic Testing

- FDA
  - Increase emphasis on safety and compliance
  - IVDMIA draft guidance
  - Companion Diagnostics draft guidance
  - Review of 510K process
- CMS
  - MEDCAC PGx for cancer
    - Development of metrics for evidence of clinical utility
    - Reimbursement
      - AMA Molecular Diagnostics CPT coding working group

Molecular Diagnostics: The Next 10-15 Years

- Blood: “diagnostic window for disease analysis”
- “Multiparameter” testing: 1000(s) markers measured and analyzed simultaneously
  - Highly parallel diagnostic testing
- Gene expression and proteomic profiling of body fluids, tissues, and single cells
- Clinical genome sequencing ($1000; < one hour)
- Nanotechnology-based diagnostics

Hood L, et al. Systems biology and new technologies enable predictive and preventative medicine. *Science* 2004 306:640–643.

Weston AD and Hood L. Systems biology, proteomics, and the future of health care: toward predictive, preventative, and personalized medicine. *J Proteome Res* 2004 3:179–196.

Conclusions and Future Trends

- Targeted molecular methods will continue to be useful for common infections
  - Real-time PCR
  - Viral load testing
- Shift to multi-analyte and global molecular strategies – highly parallel diagnostic strategies
  - Solid Phase Microarrays
  - Liquid Bead Arrays
- Gene expression, proteomic or metabolomic profiling in single platform
  - Predict disease susceptibility
  - Follow patterns of acute or chronic infections
  - Examine patterns of treatment response or recovery

Luminex

Customer Perspective: Life Science Research




Dr. Thomas Joos

Head of Biochemistry
NMI Natural and Medical Sciences Institute at the University of Tuebingen

What beats the beads?

multiplexed immunoassays - arrays of applications

Thomas Joos

New York, March 25, 2010

Natural and Medical
Sciences Institute
at the University of Tübingen

NMI Natural and Medical Sciences Institute at the University of Tübingen

The NMI is a foundation (non-profit organization) established in 1985.

It employs 175 scientists and technicians.

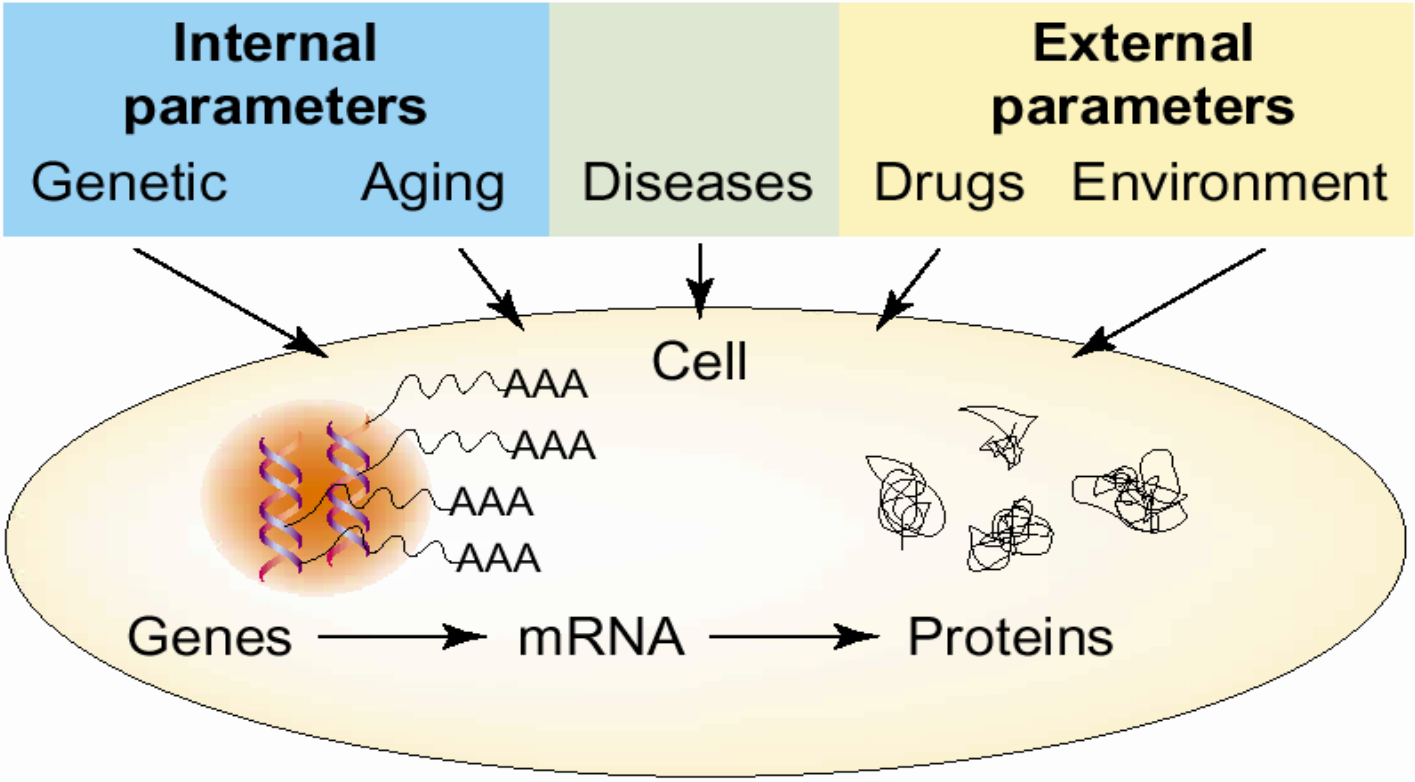
It performs applied R&D and services for industrial clients.

Outline

1. Introduction “Genomics & Proteomics”
2. Technologies
3. Applications
4. Summary & Outlook

Genomics & Proteomics

Understanding health and disease



Genetic Analysis

- Single Nucleotide Polymorphism

Expression Analysis

- mRNA
- Protein

Interaction Analysis

- Protein - Protein
- Enzyme - Substrate
- Ligand - Receptor
- Protein - DNA

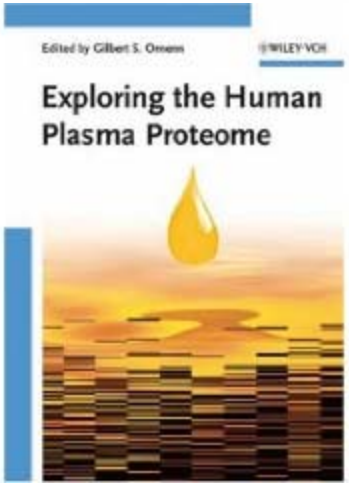
Genomics & Proteomics in Medicine

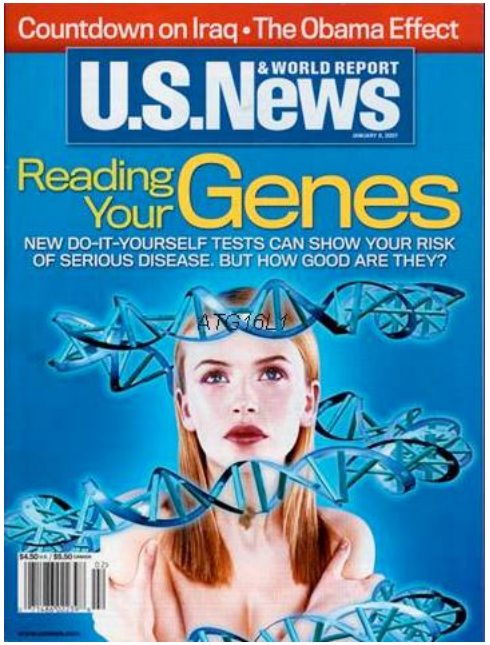
NMI
achieving results

A revolution in progress ?

HUPO

Human Proteome Organisation

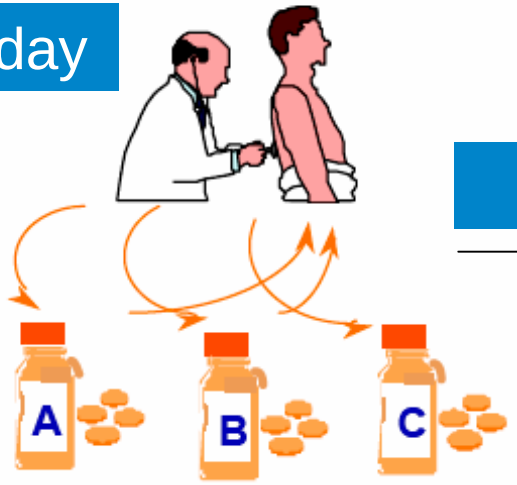




Genomics & Proteomics in Medicine

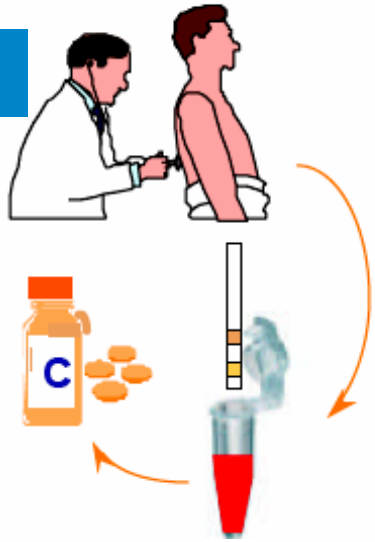
A revolution in progress ?

today



Personalized

future



- The right Drug
- at the right Dose
- for the right Patient
- at the first Time

Genomics & Proteomics in Medicine

A revolution in progress

with $100 Mio failure rates

Genomics & Proteomics in Medicine

NMI
achieving results

A revolution in progress

with $100 Mio failure rates

- Ciphergen
  - Nanogen
    - Motorola
      - Zyomyx
        - Philips
          - Böhringer Mannheim
            - Infineon
              - Quantum Dots
                - GenProt
                - ……


NEWS FOCUS

Proteomics aims to chart the ebb and flow of tens of thousands of proteins at once to produce snapshots of life inside cells. For now, the technology isn't there. But this young field is growing up fast

High-Speed Biologists Search For Gold in Proteins

Science 7 December 2001

Technology, Application or Market Acceptance Failures

Outline

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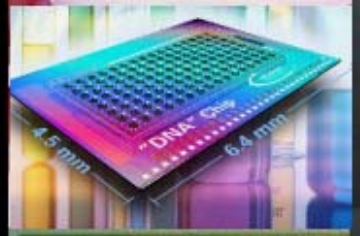
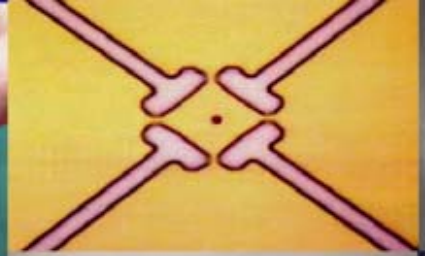
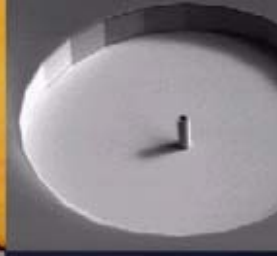
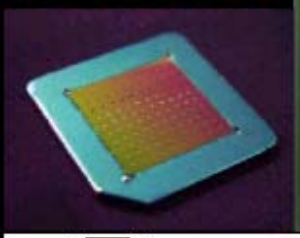
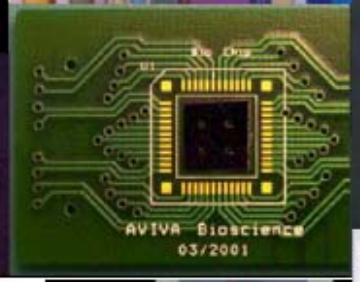

"DNA" Chip
4.5 mm
6.4 mm

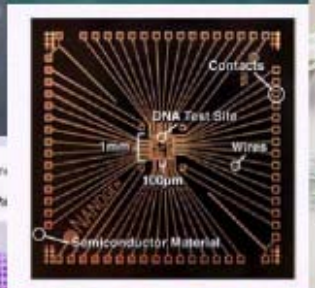

0001 15KV X65 100Pm WD23

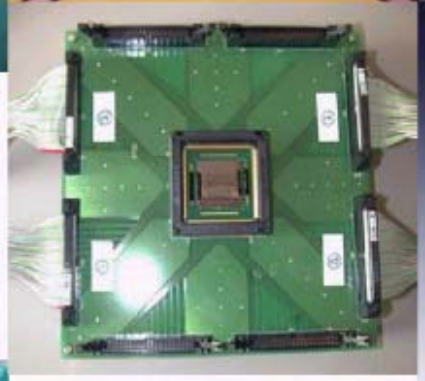




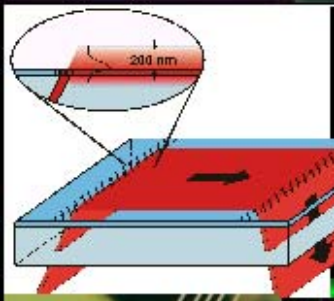


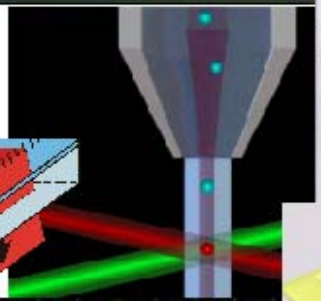

AVIVA Biosciences
03/2001

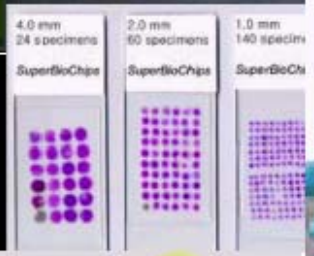

Contacts
DNA Test Site
1mm
Wires
100µm
Semiconductor Material

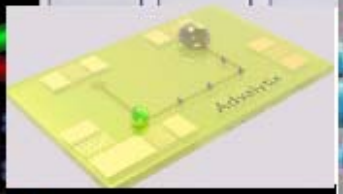


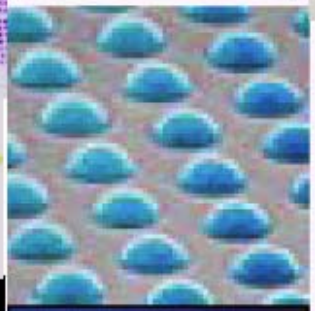

i-STAT
37°
EG6+

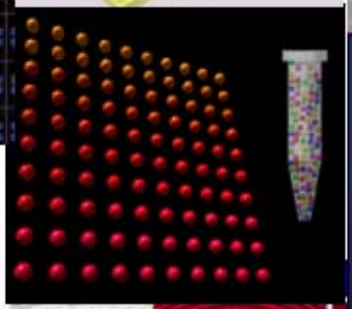

200 nm

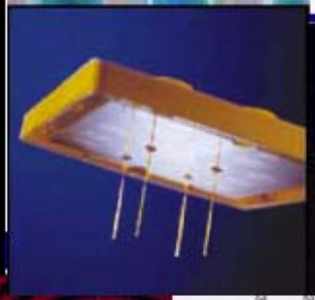



4.0 mm
24 specimens
SuperBioChips
2.0 mm
60 specimens
SuperBioChips
1.0 mm
140 specim
SuperBioCh

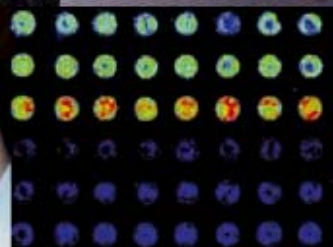

Adsorbs





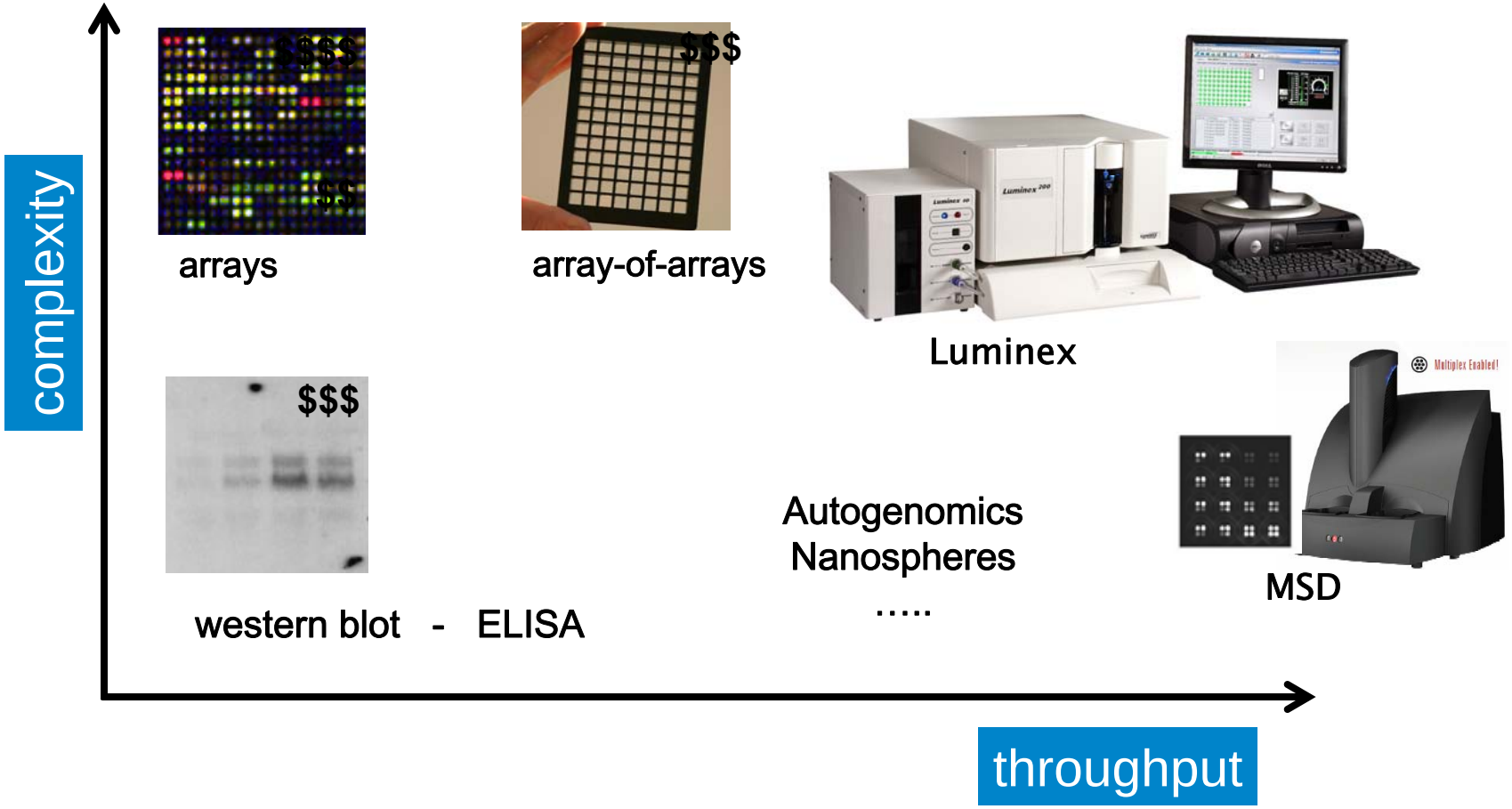


BioChipNet

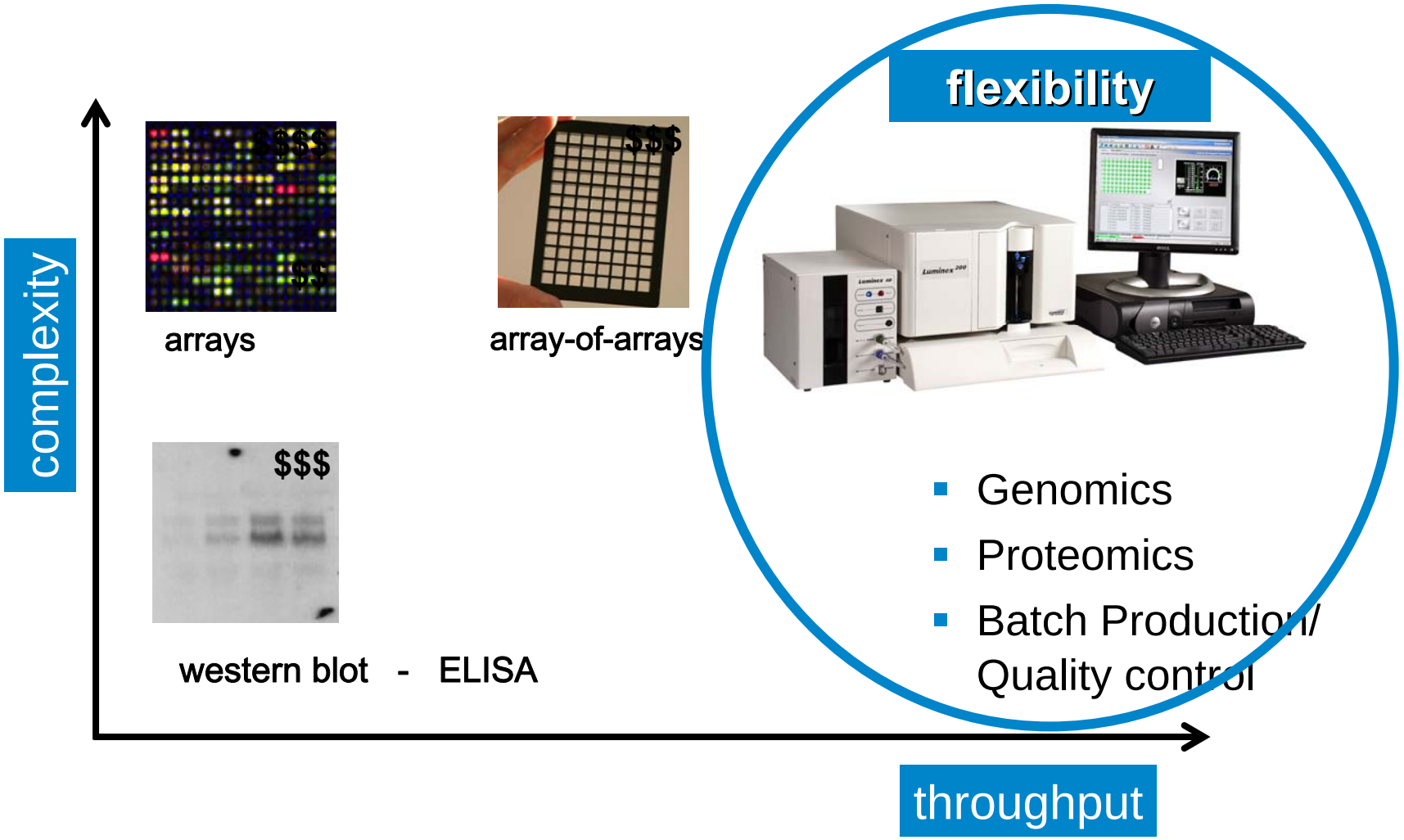


New Technologies – looking for applications

Technologies & Enabling Solutions



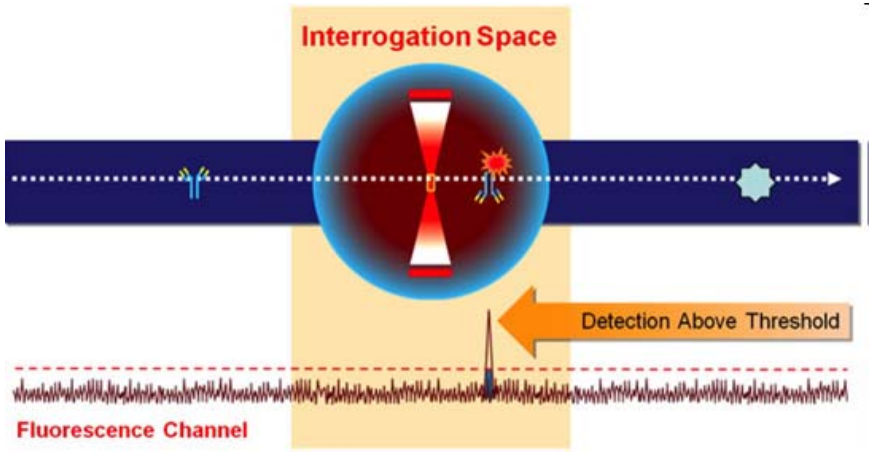
Technologies & Enabling Solutions



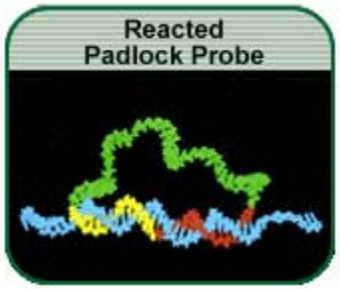
Higher Sensitivity -

a challenge for standard immunoassays

Singulex



O-Link



Limited target analytes

➔ $$/data point

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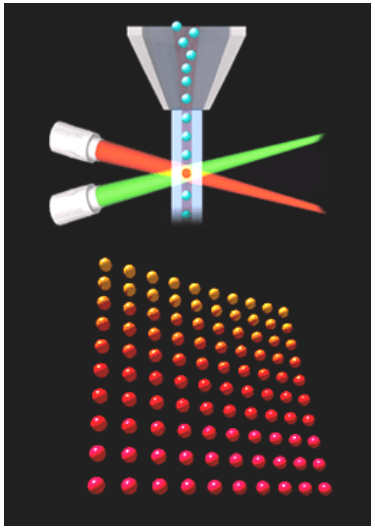
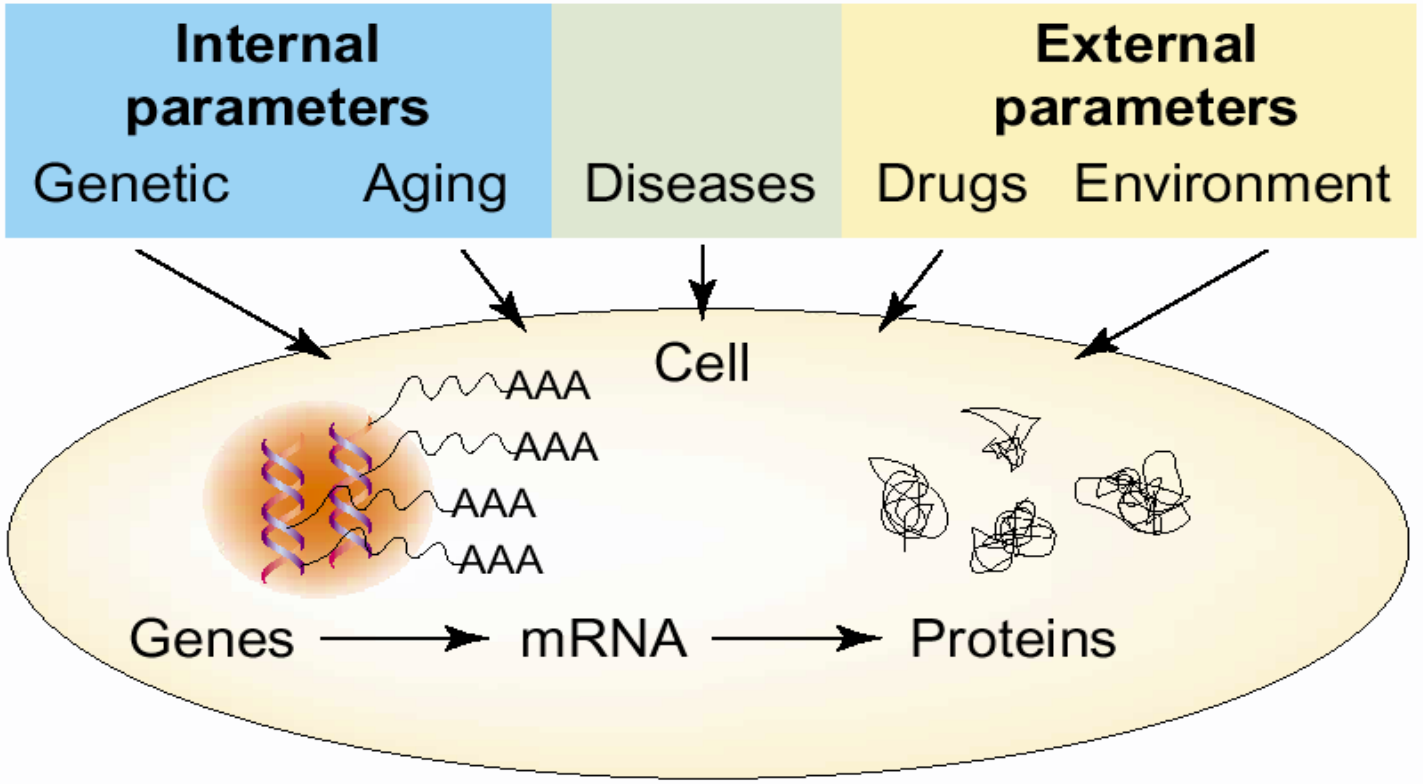
Genomics & Proteomics





Genetic Analysis

- Single Nucleotide Polymorphism

Expression Analysis

- mRNA
- Protein

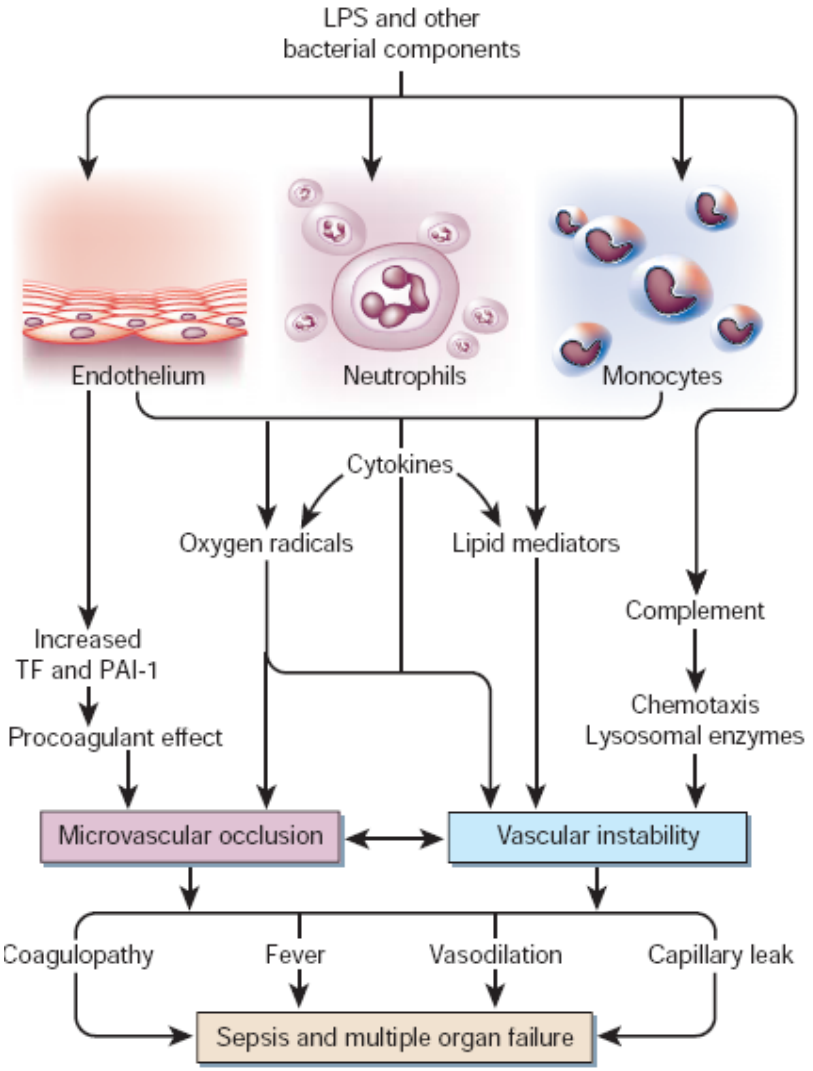
Interaction Analysis

- Protein - Protein
- Enzyme - Substrate
- Ligand - Receptor
- Protein - DNA

Example I
Systemic Inflammatory Response Syndrome

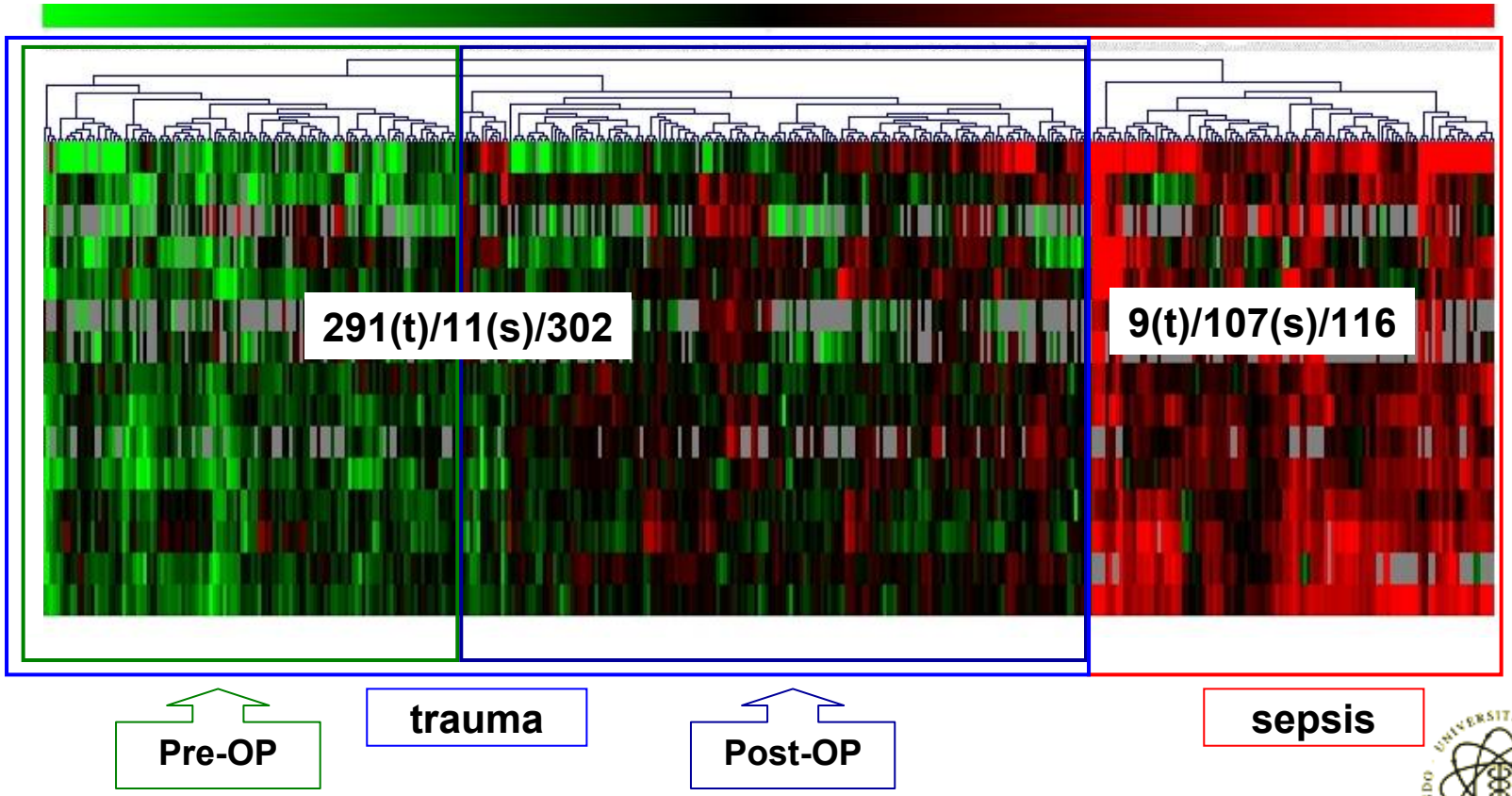
- Critical Deregulation of the Immune System
- Multitude of Inflammatory Mediators involved
- Cytokines / Chemokines, & Soluble CDs

→ 39 Parameters for Plasma Profiling



*Cohen (2002) Nature: **420**, 888*

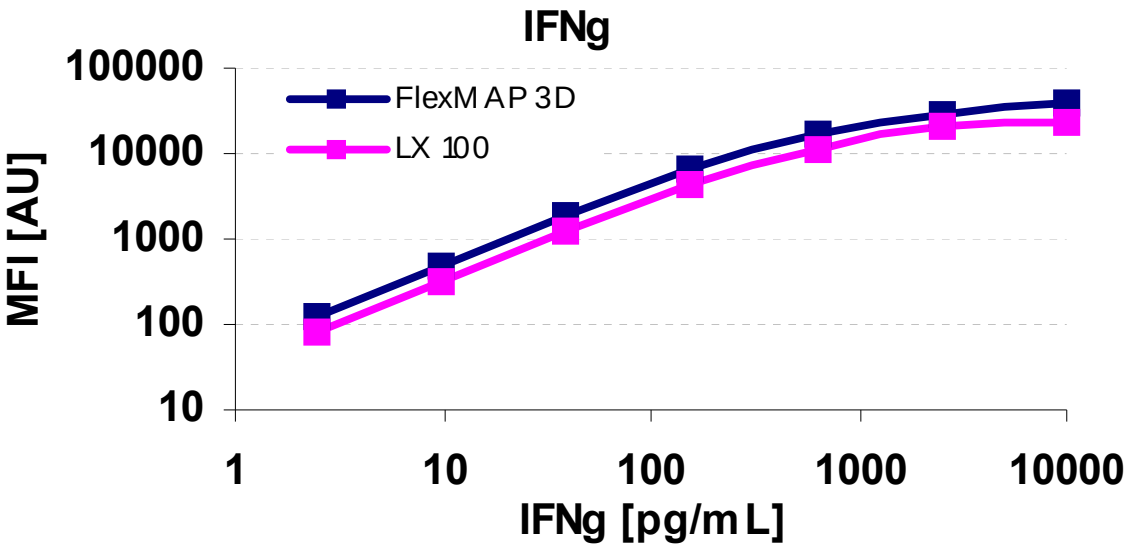
Example I
Systemic Inflammatory Response Syndrome

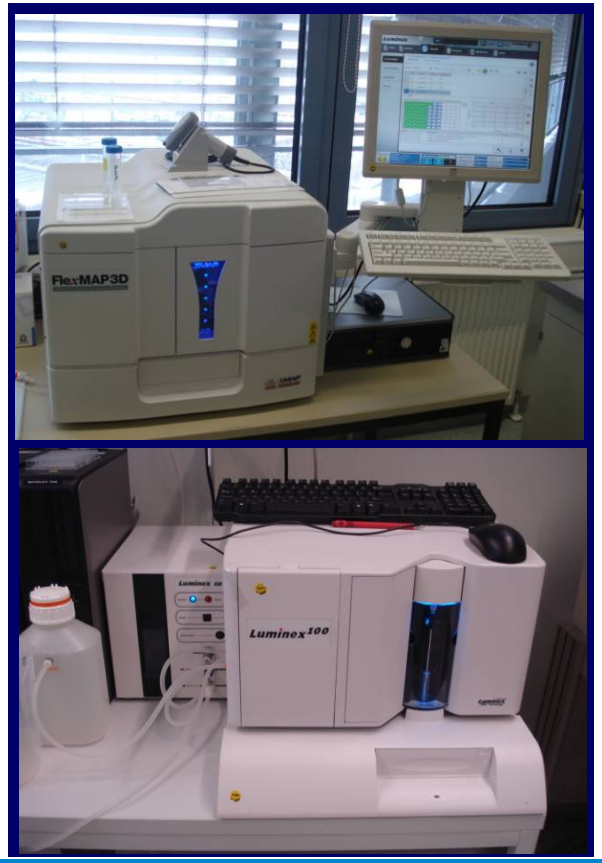


Pro-inflammatory / Anti-inflammatory Cytokines & Chemokines
Receptor Antagonists & soluble Receptors / Matrix-Metalloproteases

Assay Performance

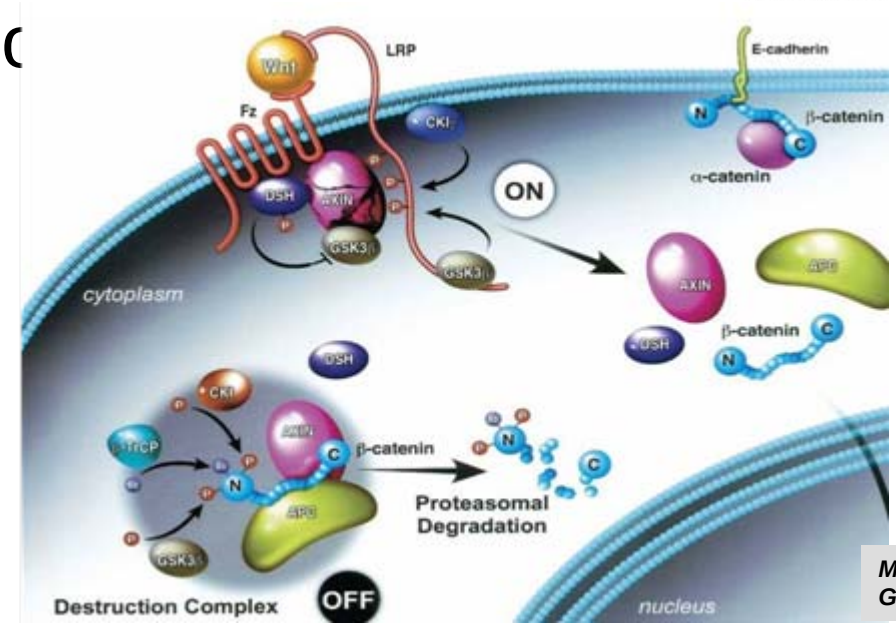
- 7-plex, 6-plex, 5-plex cytokine assay
- Mag Beads
- LX 100, FlexMAP





- **better dynamic range for IFNγ and IL-10**
- **better signals with mag beads**
- **similar sensitivity FlexMAP3D and Luminex 100**

Example II
Wnt pathway –
ß-catenin and its functic

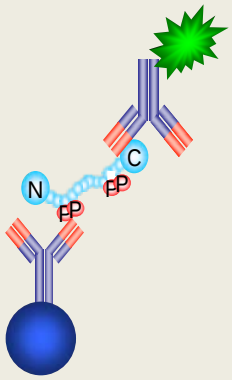
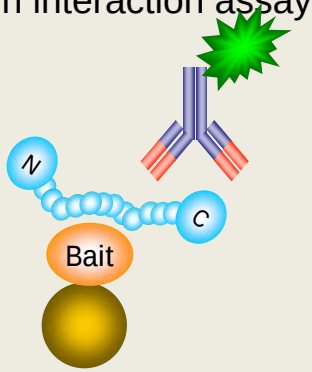
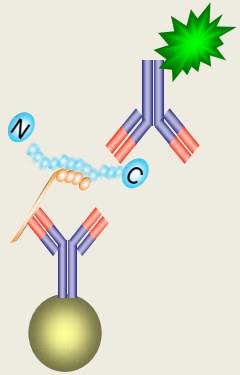


Modified Willert
Genes Dev. 2006

Function	Conventional method
Regulation	Western blot
Cell adhesion	CoIP, immunofluorescence
Transcription co-factor	EMSA, reporter assays

Different forms of ß-catenin → different technical platforms

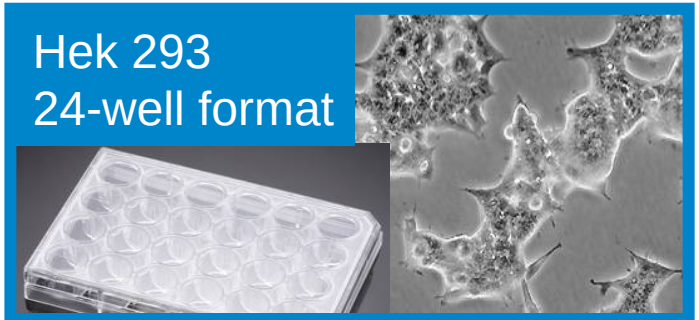
ß-catenin 7plex

Function	Regulation	Transcription co-factor	Cell adhesion
status	phosphorylated	transcriptionally active “free”	complexed by cadherins
multiplex assay	sandwich immunoassay 	protein-protein interaction assay 	µco-immunoprecipitation 
capture molecule	anti-ß-catenin anti-phospho ß-catenin - S33/S37/T41 - S45 - S552 - S675	GST-ECT	anti-E-cadherin
detector molecule	anti-ß-catenin (c-term)		

Workflow

Cell culture → ß-catenin multiplex

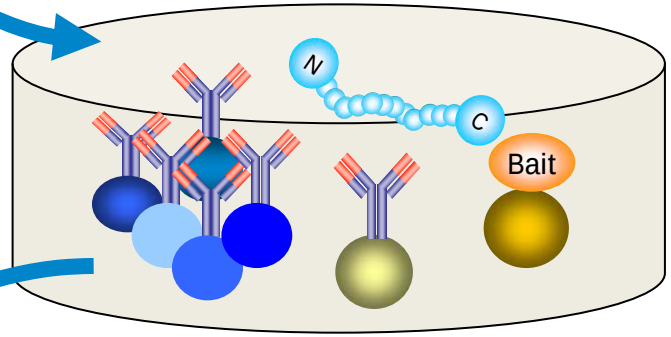
Hek 293
24-well format



Pathway activation 0 -10h

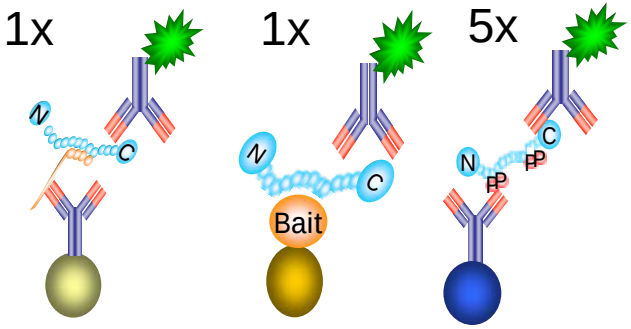
25µg lysate

+ 5 x sandwich immunoassays
+ 1 x µco-IP
+ 1 x protein-protein interaction assay



96-well assay plate

Detection

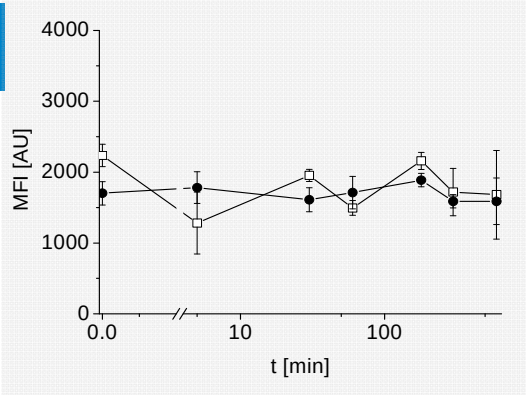


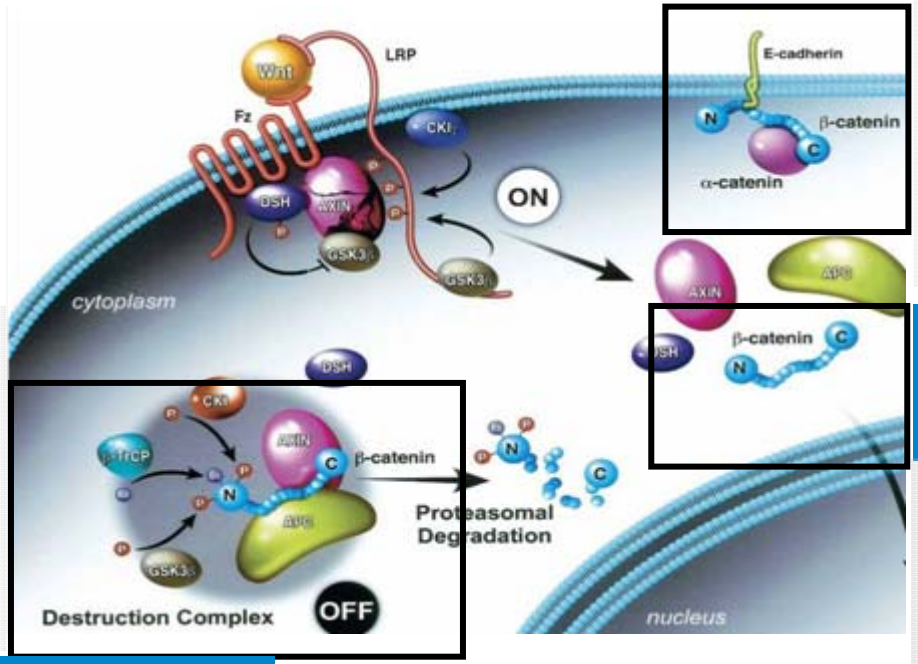
Snapshots of ß-catenin

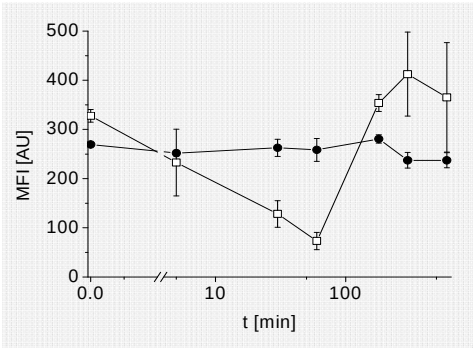
Study of dynamic Wnt/ß-catenin signaling

- different features of one protein measured in one experiment

Cell adhesion

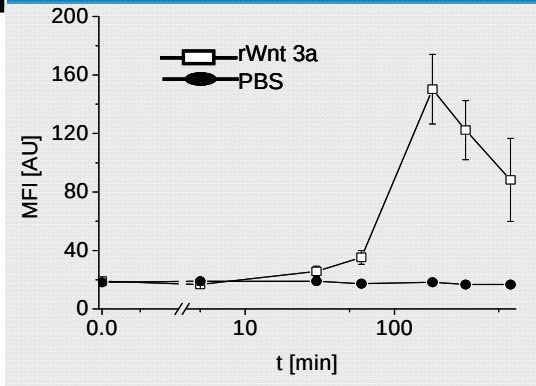






Regulation

Transcription co-factor



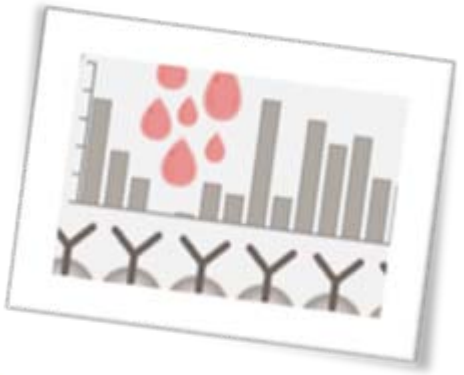
Example III

Suspension bead arrays in profiling the plasma proteome

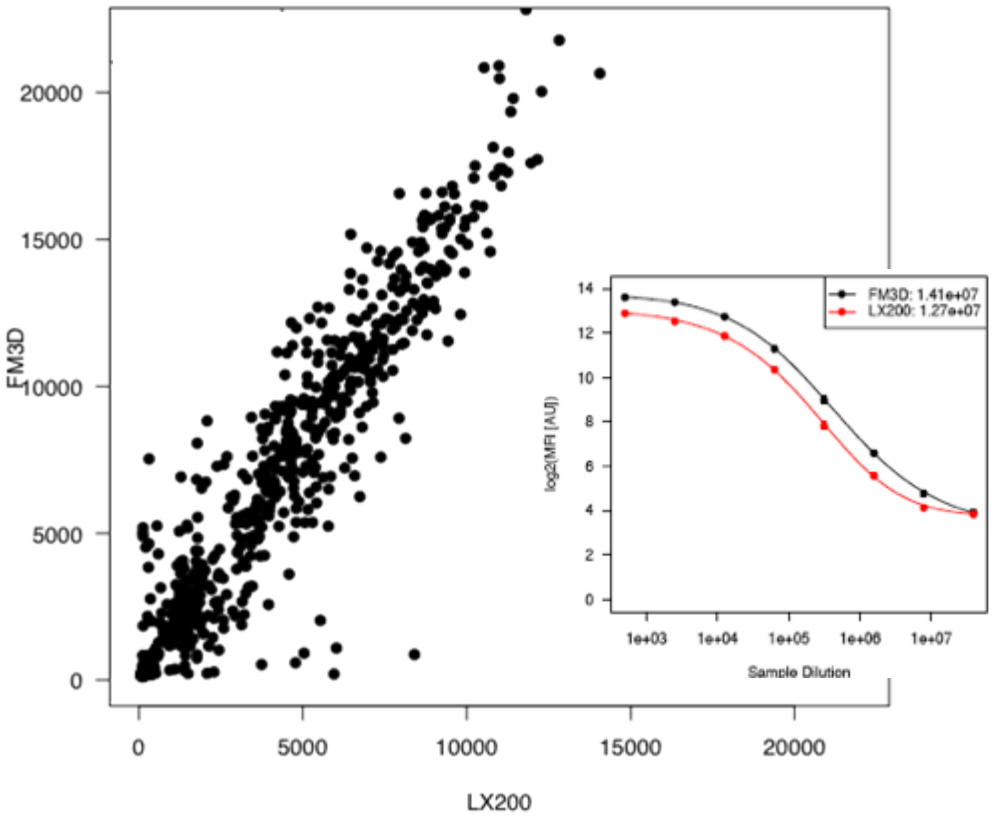
Dr. Jochen M. Schwenk
Human Protein Atlas (http://www.proteinatlas.org)

jochen@biotech.kth.se

Antibody suspension bead arrays



Upgrade to next generation multiplexing

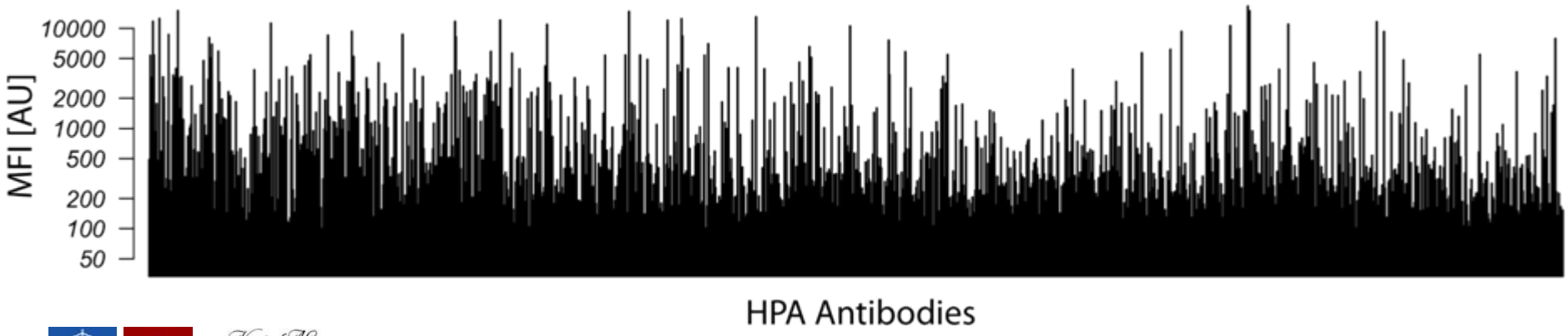


%CV	FM3D	LX200
A10	6.5	6.9
D16	9.7	9.9
C14	9.9	9.9
B20	8.9	9.0

FM3D vs LX200: Concordant performance, HIGHER throughput

Properties and Perspectives

- 384-plex bead arrays
- > 10,000 HPA antibodies
- 0.1 µl crude plasma
- 384 samples per day
- ~150,000 data points per day
- Limit of Detection ± 1 ng/ml
- Patient protein profiles
- Undirected biomarker discovery

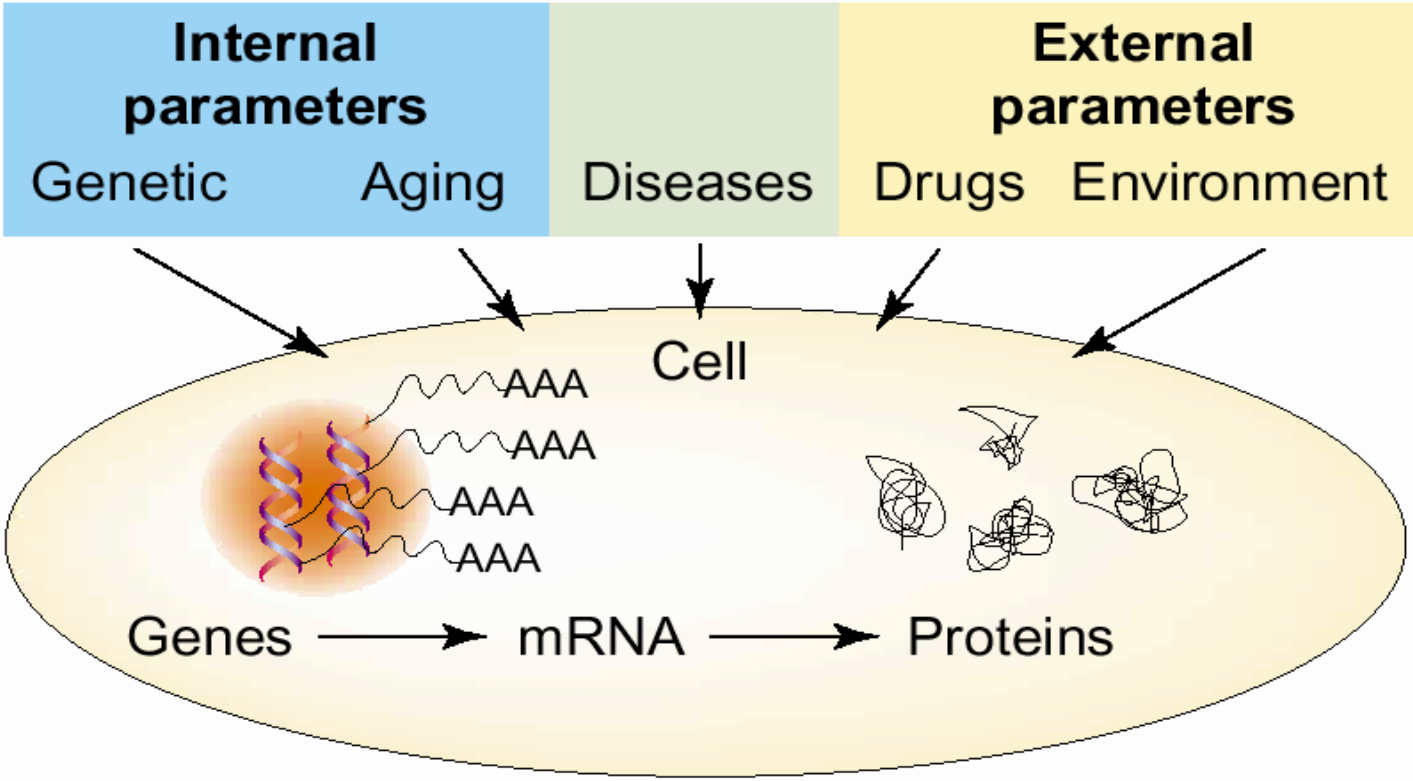


Outline

1. Introduction “Genomics & Proteomics”
2. Technologies
3. Applications
4. Summary & Outlook

Genomics & Proteomics

Understanding health and disease



Genetic Analysis

- Single Nucleotide Polymorphism

Expression Analysis

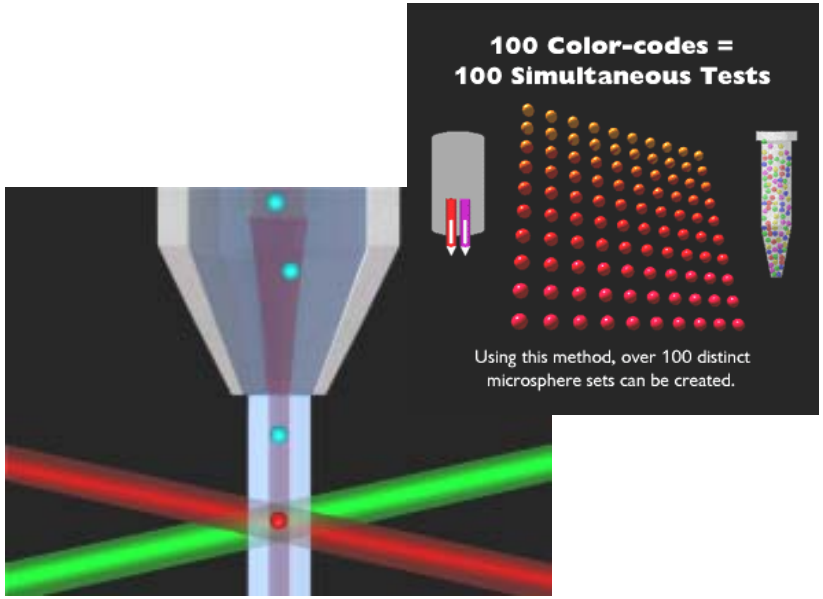
- mRNA
- Protein

Interaction Analysis

- Protein - Protein
- Enzyme - Substrate
- Ligand - Receptor
- Protein - DNA

Summary & Outlook

- Proven Technology
- Arrays of Applications



Bead based assay systems will be a routine instrument in each and every biological laboratory performing genomic and proteomic applications.

The Team

Acknowlededgement

Biochemistry

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Strategic Initiatives

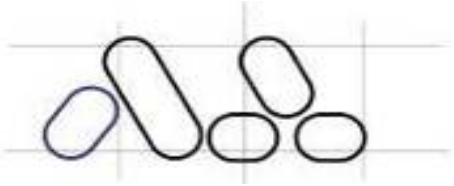



Russell Bradley
Vice President
Business Development and Strategic Planning

Outline

- Advanced Liquid Logic
- BSD Robotics Acquisition
- Biothreat Surveillance

Advanced Liquid Logic

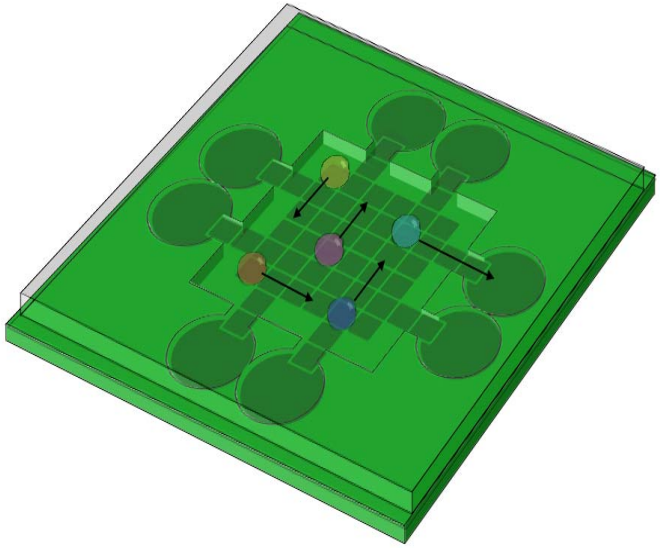


Advanced Liquid Logic, Inc.

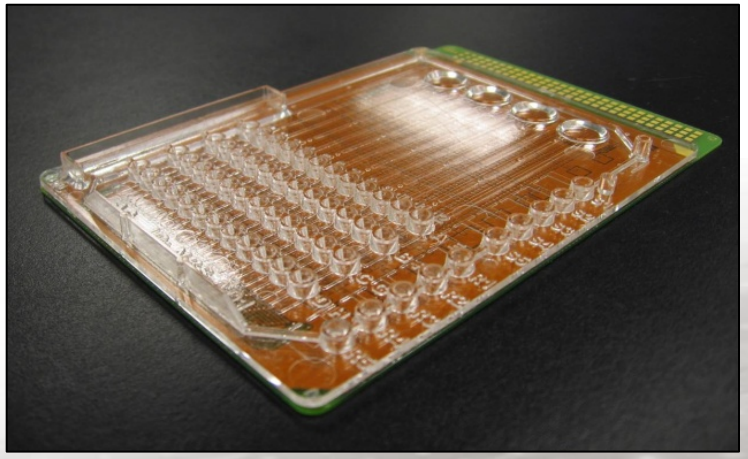
Luminex

Automation & Digital Microfluidics

- Advanced Liquid Logic
  - Leader in Digital Microfluidics
  - Founded in 2004
  - Duke University
  - Over 100 patents
- Technology
  - Digital fluid manipulation
  - Programmable electric fields
- Agreement
  - Exclusive license
  - Development & collaboration



Digital microfluidic lab-on-a-chip



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Why Digital Microfluidics?

Today's laboratories need; fast answers, less labor and more simplicity

- Size, speed & reduced cost
- Flexibility: samples & applications
- Digitally program complex fluid handling
- Nano-volumes = Faster assays & reduced reagent costs

Droplets precisely controlled with programmed electric fields

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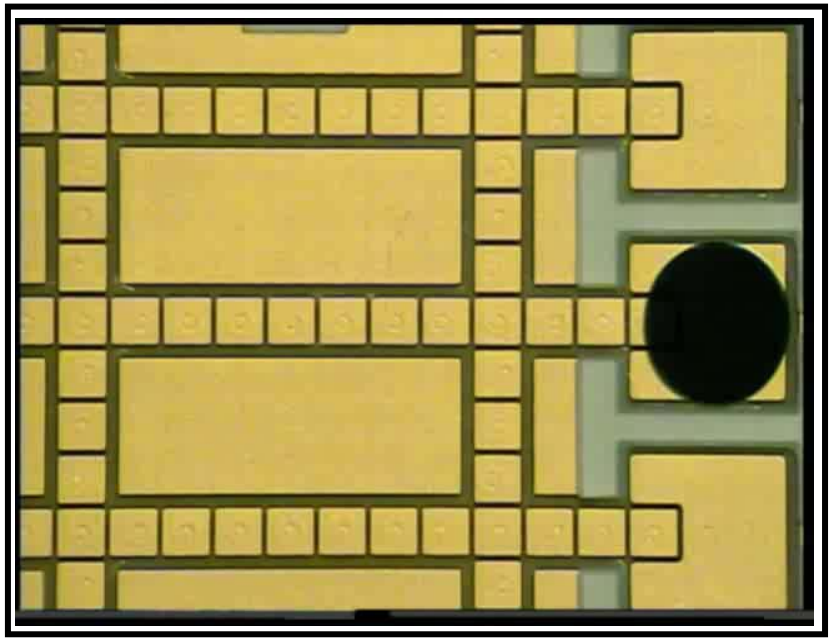
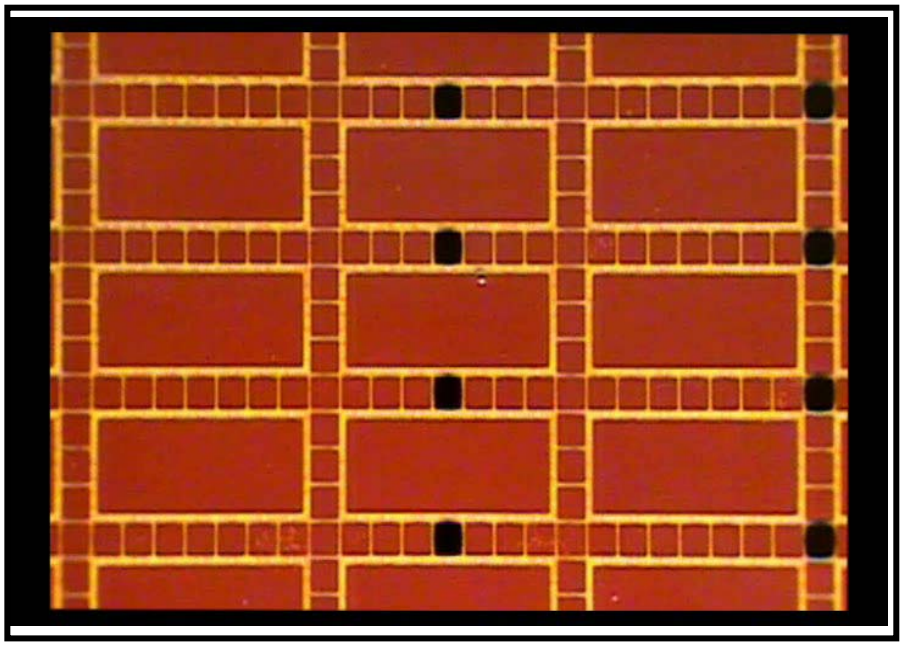
Capability and Flexibility

Versatile platform match for Luminex's xMAP® Technology





- No moving parts & no channels
- Fully software programmable
- Flexible configurations
- Compatible with Luminex's xMAP® suspended MagPlex beads

- Broad applications & capabilities
- Multiple sample types
- Nucleic acid applications
- DNA & RNA amplification
- Proteins & immunoassays

Luminex

Demonstrated Benefits

Performance demonstrated during feasibility studies;

- Faster assays (minutes vs. hours)
- Nano-volumes accelerate incubation temperature cycling
- Up to 90% reduction in reagent use (lower cost)
- Enclosed system (reduced contamination risk)
- Extremely rapid & efficient sample concentration
- Simultaneous nucleic acid & protein immunoassay capability (unique applications)
- Sample “splitting” on chip for parallel sample processing

BSD Robotics Acquisition

Luminex

Background

- Privately held automation technology company.
- Established 1991 in Brisbane, Australia
- Worldwide market leader (installed market share)
- Two major markets
  - Newborn screening labs (State Health Labs)
  - Human Identification labs (Forensics & Paternity)
- Profitable
- Accretive to Luminex by early 2011

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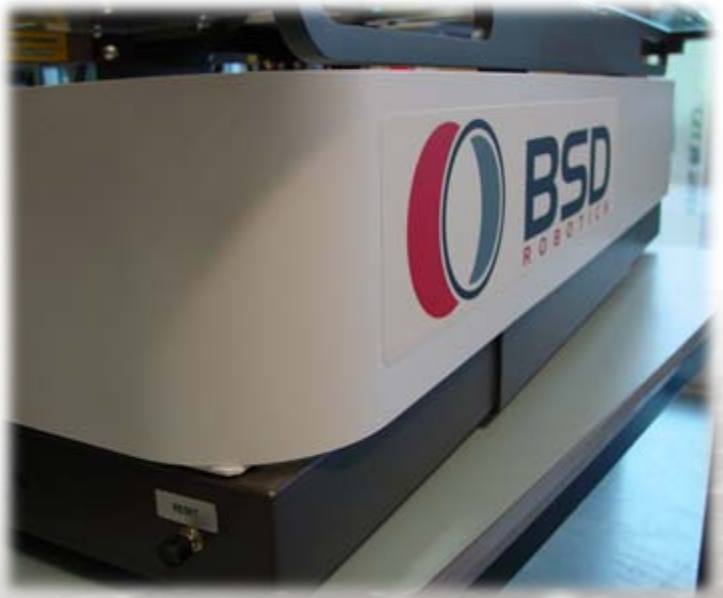
What does BSD provide Luminex?

- Global leader in the automation of sample paper punch equipment
  - Largest 150 neonatal (newborn) labs in the world use BSD
- Strong R&D base & track record of innovation
- Critical IP for punching/pre-processing of paper based sample systems
- Quality System, consistent with ISO9000 and US FDA's QSR approach
- Market access to Newborn Screening, Forensics, Agri-Biotech, Pharmaceutical development & Clinical trials



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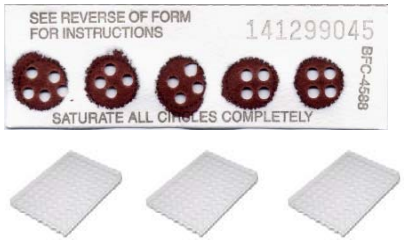
Newborn Laboratory Sample Flow

Sample Collected

Transport to Lab

Punched into Plates for Testing /ID's into LIS



Punches Analyzed

xMAP NeoPlex4

Data to LIS for Analysis

Luminex

Molecular Diagnostics Market Segments

- Forensics and Paternity (40% Rev.)
  - Life Technologies Distribution
- Infectious Diseases
- Human Genetics
- Animal & Plant Genetics
- Pharmacogenomics
- Clinical Trials

BSD 1000 Auto-puncher

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Biothreat Surveillance

xMAP ideal for Biodefense Applications

Leverage Core xMAP Technology for Biodefense Applications

Environmental Surveillance

Autonomous Detection

Lab Analysis

Medical Diagnostics

First Responder Triage

Syndromic Surveillance

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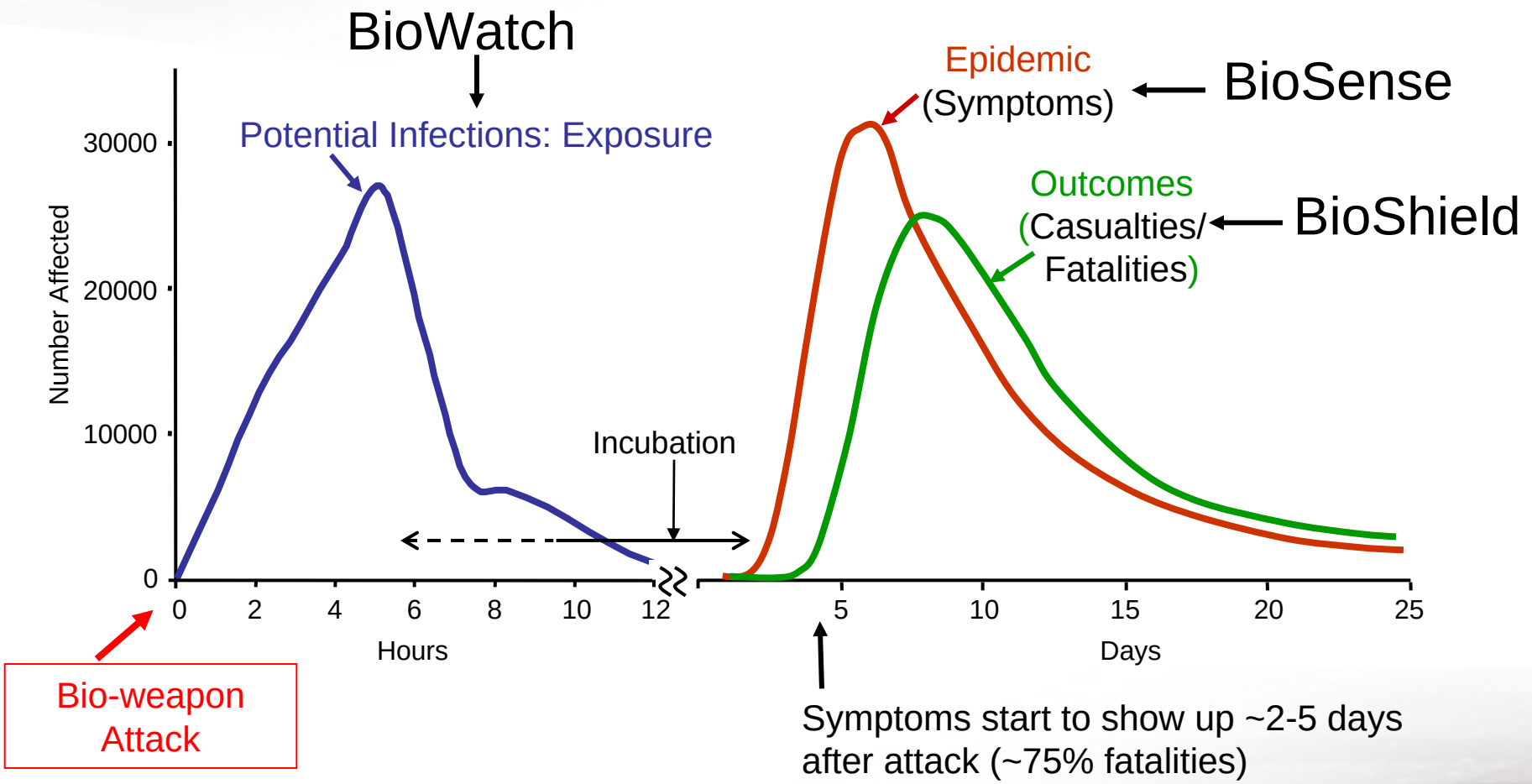
Why Environmental Monitoring is Critical



Prevent	Warn	Protect	Contain / Decon	Treat

Chart adapted from a report on *Health Aspects of Chemical and Biological Weapons* by the *World Health Organization*

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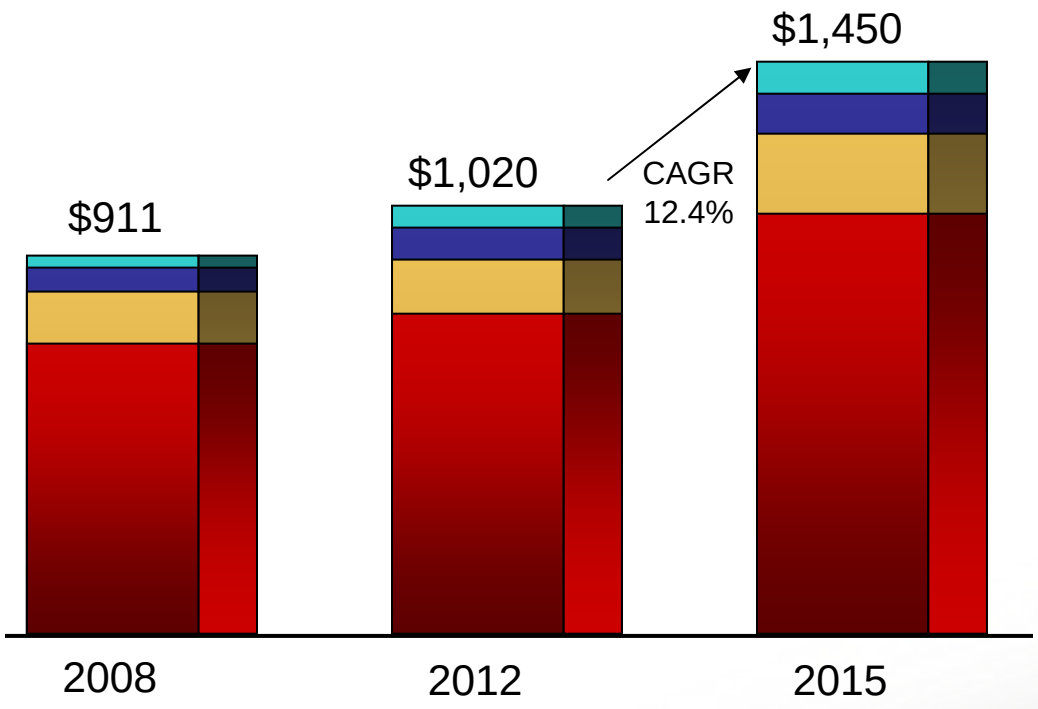
Bio-Threat Market Review

The world-wide market for Bioterrorism detection equipment is estimated at ~$900MM in 2008 and is projected to cross the one billion milestone by 2012, before it reaches ~$1.5B by 2015.

WW Bioterrorism Detection Equipment Market

Market Size ($ in Millions)



	CAGR
Middle East	9.59%
Asia	7.61%
Europe	7.44%
United States	6.52%

Potential Placement Locations Of Equipment

- Airports
- Concert Halls
- Government Offices
- Military bases
- Post Offices
- Stadiums
- Subways

Source(s): Bioterrorism, Global Industry Analysts

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Luminex Partnership w/ Northrop Grumman

- Northrop Grumman & Luminex announced their collaboration on March 16, 2010
  - Northrop Grumman is prime contractor & system integrator to the US federal government
  - Luminex's xMAP Technology will be the detection platform for the developed system
  - Luminex will provide assay consumables
  - If the program is successful…
    - Potential of 2,000+ unit placements in several years
    - Potential of 7+ million tests per year based on xMAP

NORTHROP GRUMMAN

Luminex

In Summary

- Advanced Liquid Logic
  - Programmable fluidics complementary to xMAP
  - Improving speed, reducing cost & removing complexity
- BSD Robotics Acquisition
  - Provides Luminex with a critical automation capability & access to new markets
- Biothreat Surveillance Opportunities
  - Northrop Grumman's selection of the xMAP detection platform will provide Luminex with a leadership position in Homeland Security

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Platforms and Automation




Tim Dehne
Vice President, Systems R&D

Luminex Platform Portfolio

Proprietary xMAP® Technology

Multiplexing Capabilities

50-Plex
60 minutes

MAGPIX™

100-Plex
45 minutes

LX 200

500-Plex
20 minutes

FLEXMAP® 3D

Price and Throughput

Luminex

FLEXMAP™ 3D

Luminex

FLEXMAP 3D: High Throughput, High Plex

Multiplexed proteomic, transcriptomic, and genomic biomarker analysis

Features:

- Compatible with all LX200 assays: Partners & LMNX
- Dual syringe
- 96 or 384 well plates
- 96 well plate in 20 min.
- 500-Plex
- xPONENT 4.0 software
- Space saving monitor arm with touchscreen

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FLEXMAP 3D: Target Markets

Medium to high volume laboratories

Customer Profile

- Pharma
- Biotech
- Clinical Academic Center
- Clinical Translation Research Center
- Contract Research Organizations
- Government or academic core facilities
- HLA labs

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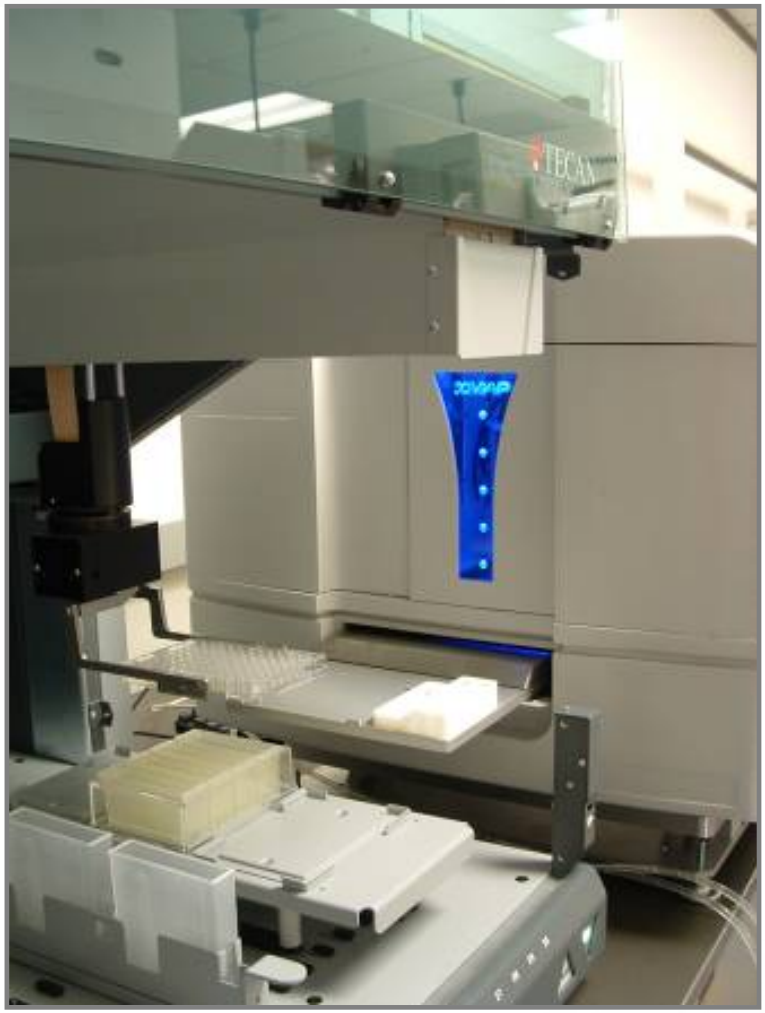
FLEXMAP 3D: Automation Enhancements



Automation drivers available for:

- Tecan
- Caliper Twister
- Thermo

Ease of automation:

- Side mounted monitor arm
- Improved precision of XY platform
- Reduced footprint
- LIS connectivity
- Optional swivel base available

FLEXMAP 3D Launch Success

- Commercially launched June, 09
- Over 50 instruments in the field
- Placements
  - Pharma, biotech, or high throughput academic labs
- Over half of the placements are coupled to automation technology

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FLEXMAP 3D and LX200 Comparison

LX200	FLEXMAP 3D
100-Plex	**Higher plex:** 500-Plex
96 well plate only	**Higher throughput:** 96/384 well plate
35 – 45 minutes read time (96 wells)	**Higher throughput**: <20 minutes read time (96 wells), 1hour 15 min. (384 wells)
3.0 Logs Dynamic Range	**Less sample dilutions:** 4.5 Logs of Dynamic Range
xPONENT 3.1	**Enhanced software interface:** xPONENT 4.0
Manual maintenance and probe height adjustment, larger footprint	**Usability/Automation enhancements:** Automated maintenance, probe height adjust, piercing probe, compact space saving footprint, LIS and 21 CFR part 11 capabilities
Academic, low throughput labs	**Higher throughput labs**: Core facilities, Pharma, Biotech, Academia

MAGPIX™

Luminex

MAGPIX Benefits

- Lower cost
- Smaller footprint
- Improved reliability
- Out-of-box user installation
- Disposable system fluids
- Magnetic beads

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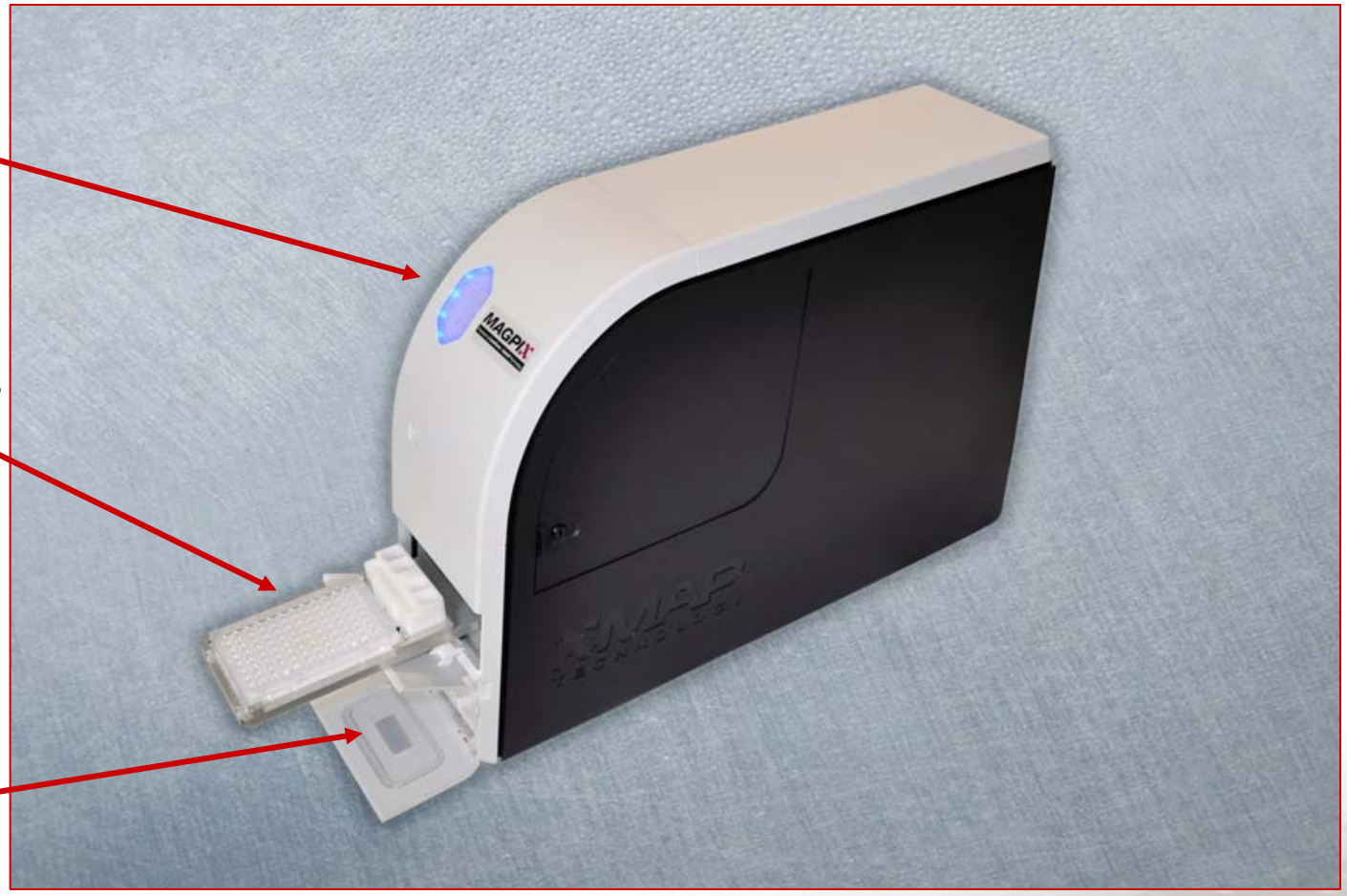
Designed for Usability



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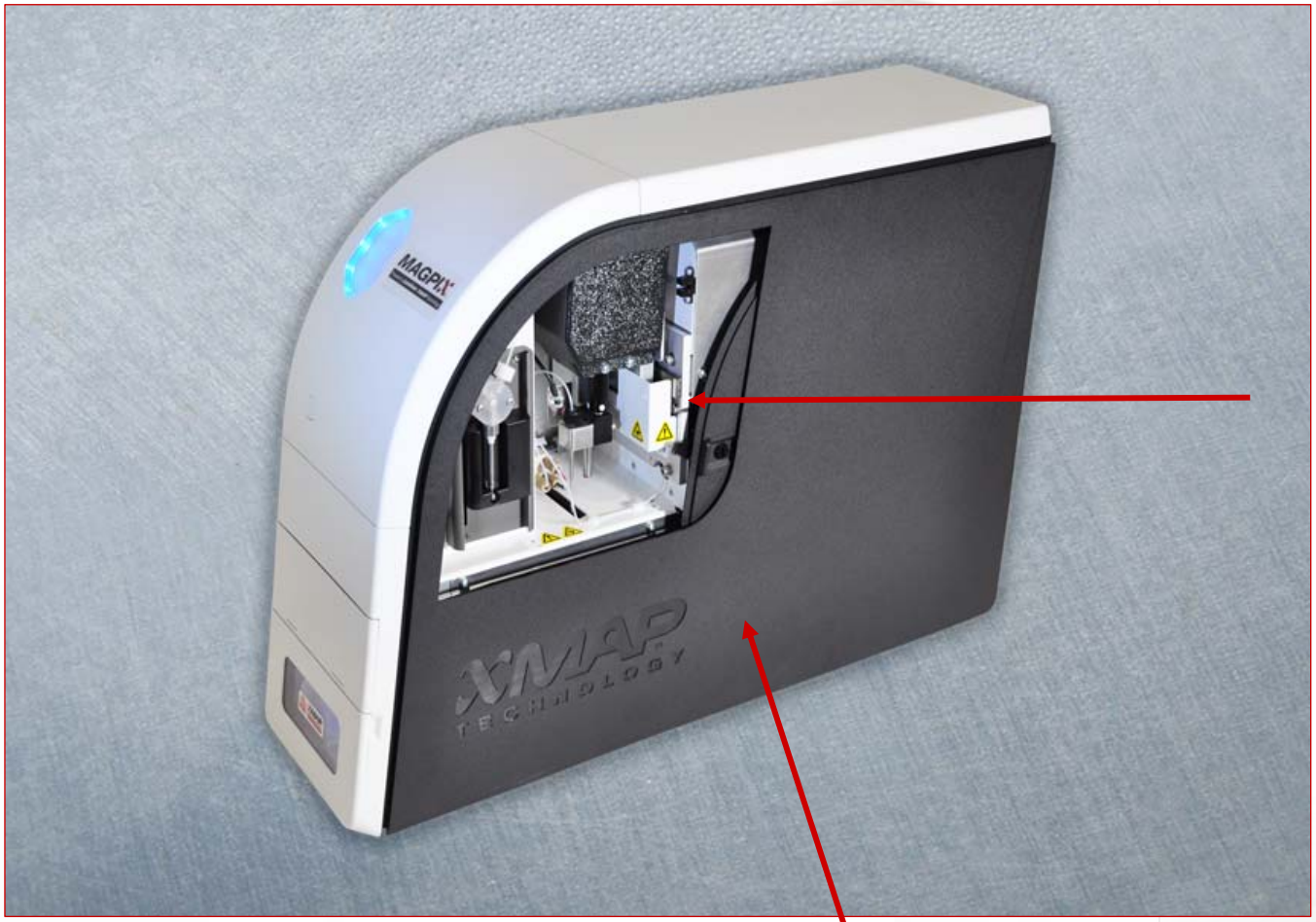
Easy Access for Maintenance



Sliding user access door

Detachable field service access panel

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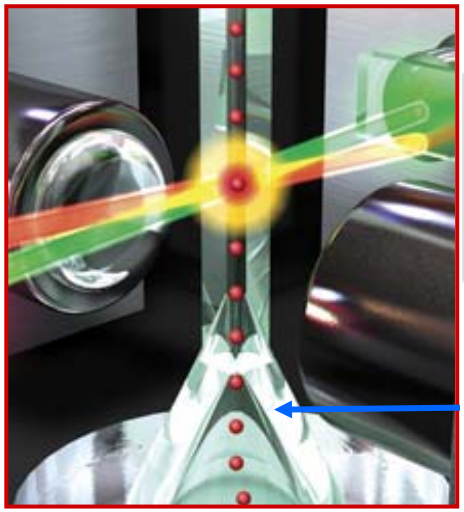
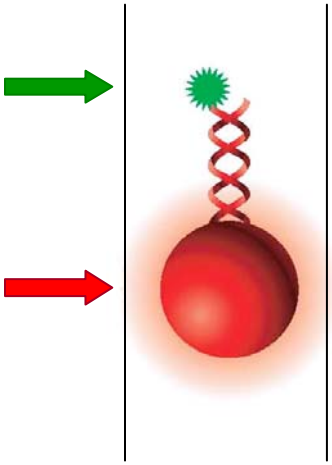
Flow Cytometry and Imaging Comparison

Flow Cytometry-Based Analysis



Interrogate label with green laser (525 nm)

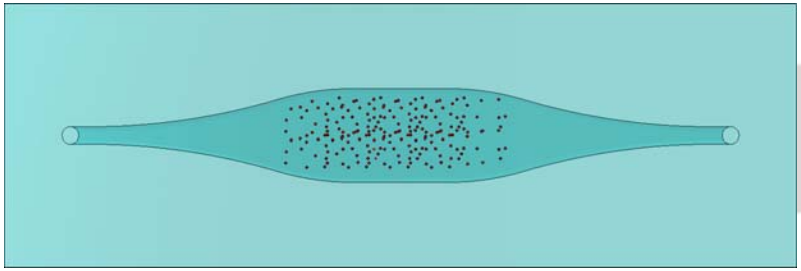
Interrogate bead with red laser (635 nm)



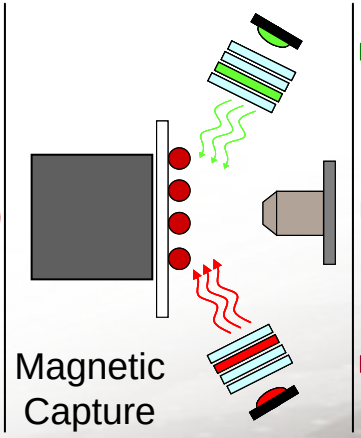
Quantify binding events

Identify bead region based on internal dye concentrations

LED/Image-Based Analysis



Beads in Chamber



Interrogate label with green LED (525 nm)

Identify and quantify with CCD imager

Interrogate bead with red LED (635 nm)

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Generation of Classification and Reporter Images

Image Capture

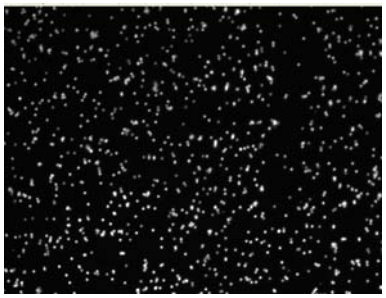
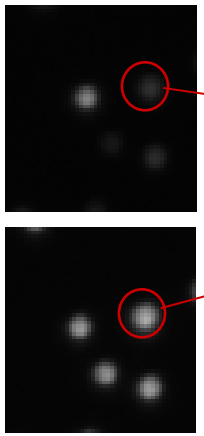
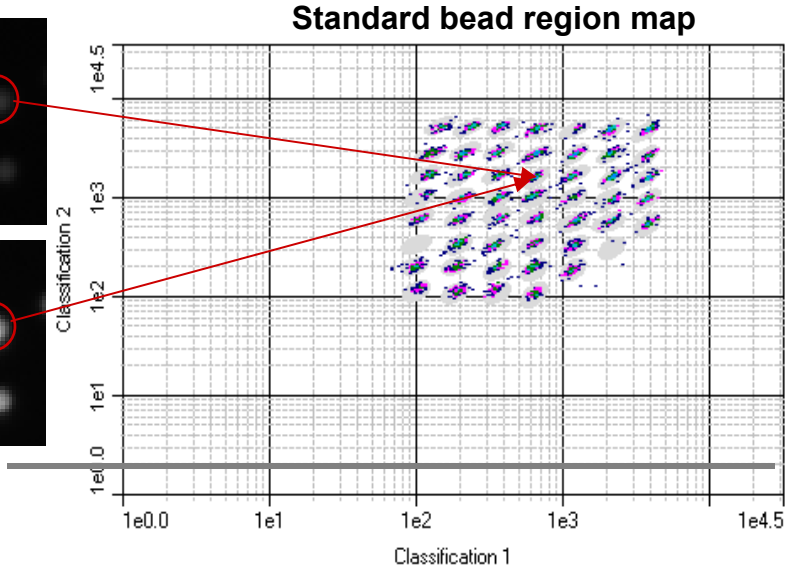
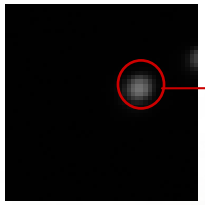
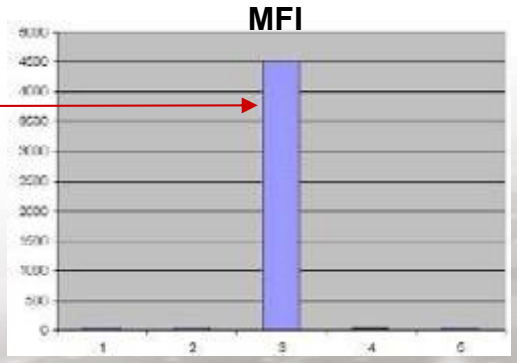


Image Analysis









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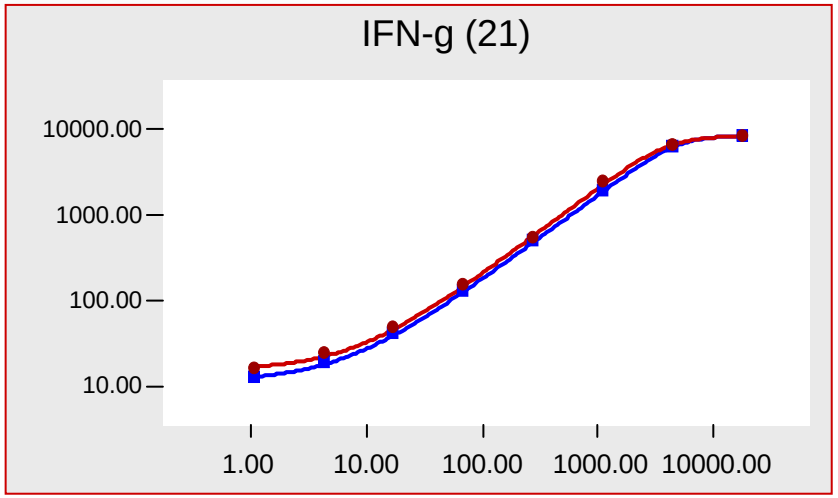
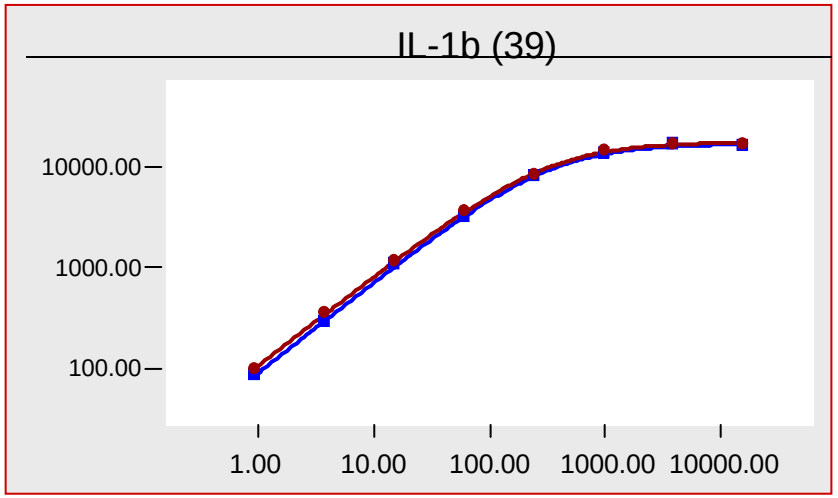
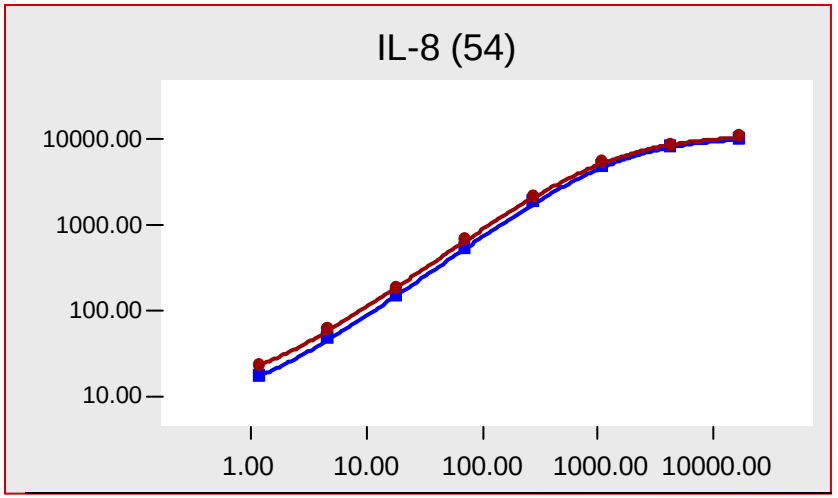
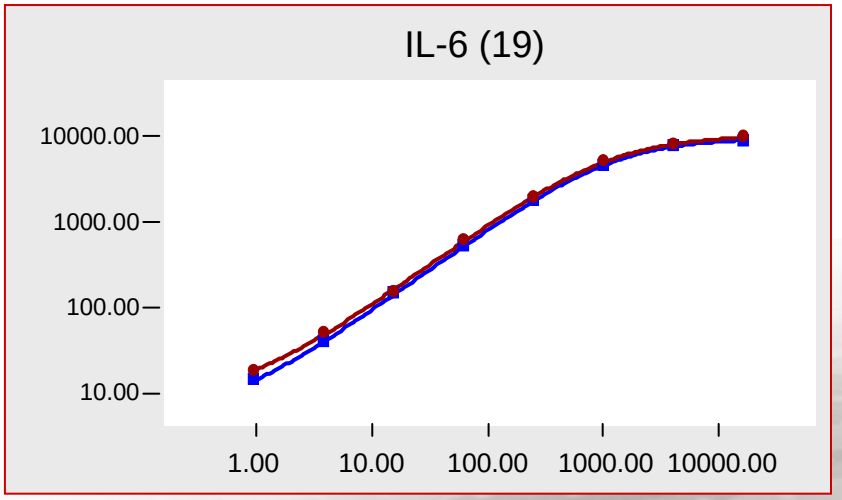
MAGPIX vs. LX 200 Assay Results

Standard curves and dynamic ranges were comparable on both instruments









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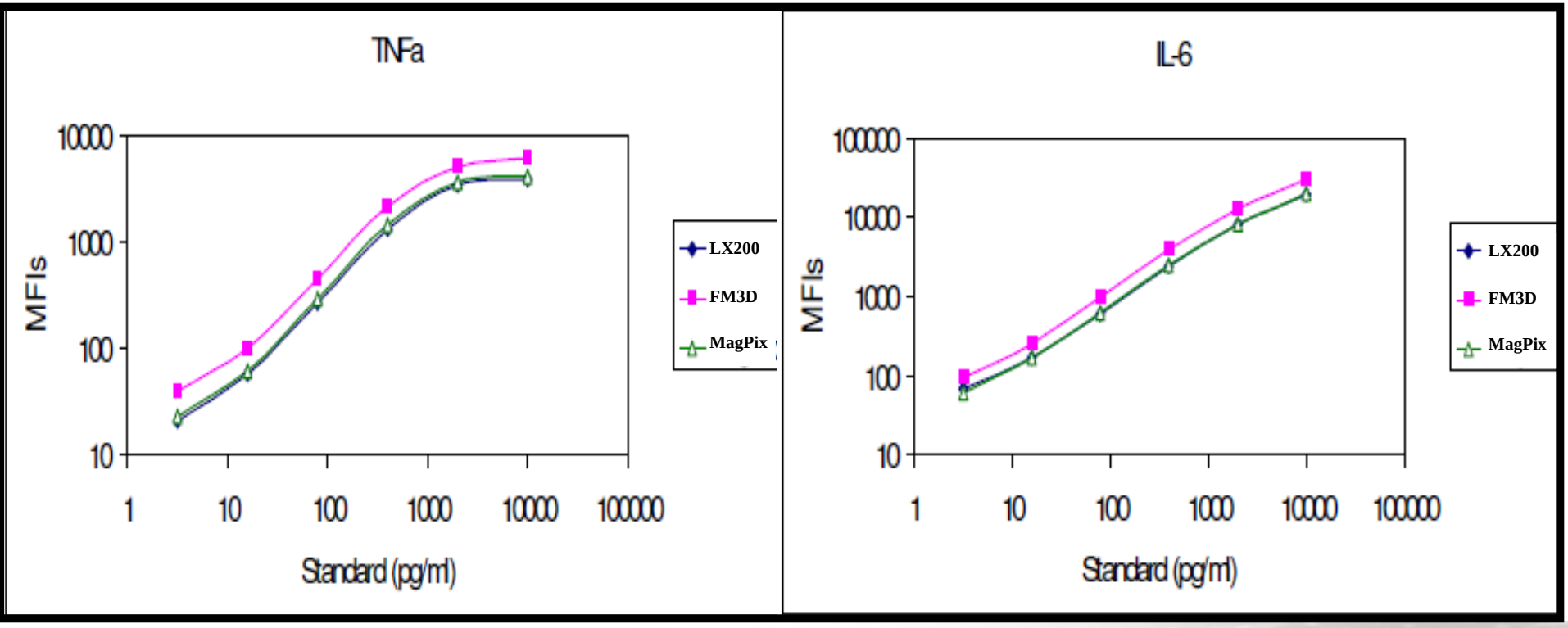
MAGPIX Milestones

- 30 Alpha systems delivered Oct., 2009
- Design Review completed in Jan., 2010
- Design Transfer to manufacturing in process
- LMNX manufactured Beta Units to be delivered in May 2010
- Commercial availability in 2nd half of 2010

LX200, FLEXMAP 3D, MAGPIX Assay Results

- Standards for two cytokines in 9-Plex immunoassay



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Automation

Automation Needs by Segment

One solution does not fit all

	Drug Development Labs	Blood Banks	State Health Labs	Reference Labs	Major Medical Center Labs	Community Hospital Labs	Other (very low sample numbers)
Testing Performed	Drug compound screening & validation	Infectious disease screening	Newborn disease screening	Broad menu of tests	Broad menu of tests	Variety of tests	Limited test menu
Throughput	Extremely high throughput **Samples/minute**	High throughput **Samples/hour**	High throughput **Samples/hour**	High throughput **Samples/hour**	Moderate throughput **Samples/day**	Moderate to low throughput **Samples/day**	Very low throughput **samples/week**
Automation Configuration	Stand alone customized liquid handling systems	Proprietary integrated platforms	Integrated Proprietary platforms – sample prep workstations	Open liquid handlers, proprietary platforms and sample prep workstations	Open liquid handlers, proprietary platforms and sample prep workstations	Integrated platforms with sample prep and stand alone sample prep workstations	Rapid (strip) tests or integrated sample prep
Processing Type	Batch sample processing	Batch sample processing	Batch sample processing	Batch sample processing and some random access	Batch sample processing and some random access	Batch sample processing and some random access	Random access (cartridge solution)
Luminex Strategy	Partner w/ Leaders in Automation			Combo	LMNX Internal Development Projects		

INCREASING REVENUE PER INSTALLED INSTRUMENT

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Typical Lab Workflow

- Sample Collection
- Concentration
- DNA Extraction
- Purification
- Amplification
- Detection
- Data Analysis

Manual Process Steps

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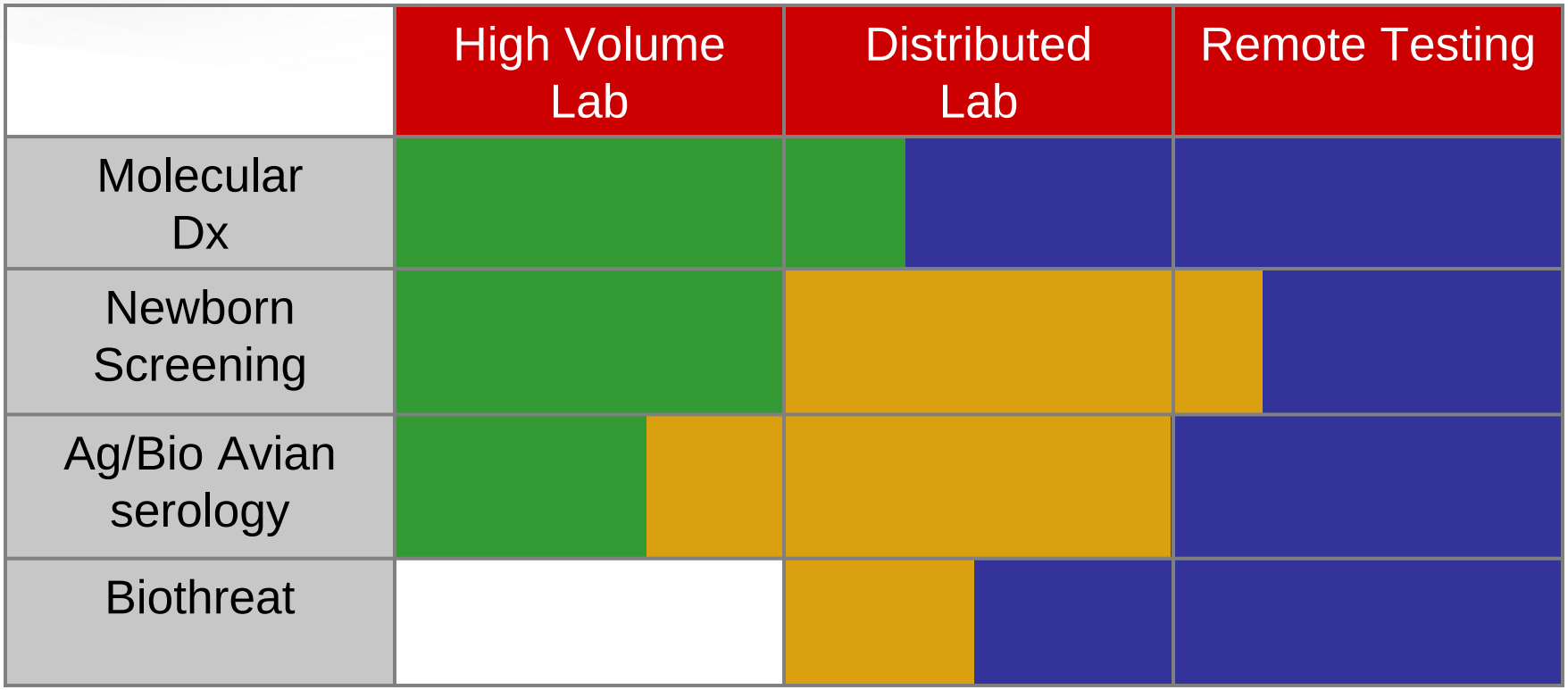
Luminex Automation Developments



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Assay Group Update




Jeremy Bridge-Cook, Ph.D.
Senior Vice President, Assay Group

Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Outline

- **Life Science Research Products**
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Life Science Research Products

- Protein products (e.g. cytokine and receptor immunoassays) well-covered by partners
  - Our strategy is to support our partners such as BioRad and Millipore and to encourage menu breadth of menu
- Nucleic Acids: Gene Expression, SNPs and MicroRNA
  - Our technology meets a need
  - This need is currently not well-served by our partners
  - Luminex is investing in serving this unmet customer need
  - Positions xMAP for transition to diagnostics

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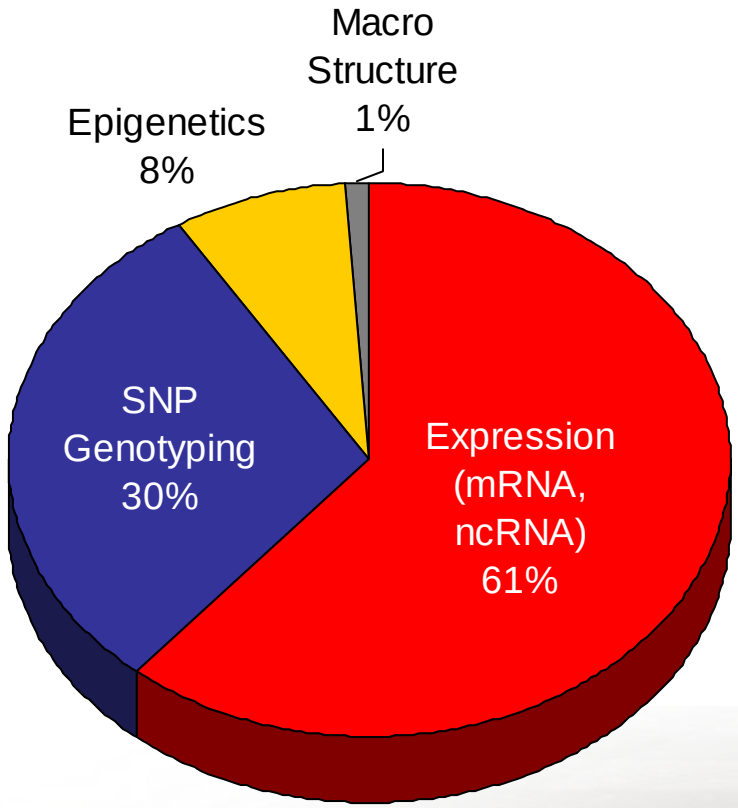
Nucleic Acids Research Customer Needs/Drivers

- Top Areas of Need
  - Expression (mRNA, miRNA)
  - SNP Genotyping
  - Epigenetics (Methylation)
- Leading Concerns
  - Costs (Assays, Instruments)
  - Throughput
  - Analytical Performance
  - Customizable Assays



$850M

Sources: Luminex commissioned third party study

Luminex

Meeting the Need: Expanding NAR Solutions

	Assay Development Tools	Assay Development Services & Kits
SNP Genotyping	• **Advanced xMAP Training** • **Reagents (xTAG magnetic beads)** • **Onsite Support**	• **Custom SNP Genotyping Assays** • **Off-the-shelf SNP arrays**
Expression (mRNA, miRNA)	• **Advanced xMAP Training** • **Reagents (xTAG magnetic beads)** • **Onsite Support**	• **FlexmiR v2 miRNA Assay** • **Custom Gene Expression Assays** • **Off-the-shelf expression arrays**

Status: **Existing**
New
Planned

Sources: Luminex commissioned third party study, and internal research (2009).

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Outline

- Life Science Research Products
- **Agricultural Science Products**
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Ag Science Market Review and Opportunity

The worldwide Agricultural markets we are focused on today represent a TAM estimated at $1.3B, and a SAM estimated at $740MM

Ag-Bio Testing Market

- Seed testing- measuring Genetically Modified Organisms (GMO's) in seeds in the development of herbicide and pesticide resistant plants
- Crop testing- post harvest testing of grains for GMO content
- Plant pathogen testing- measuring organisms that cause infectious diseases in plants

Food Safety Testing Market

- Pathogen Testing- E. coli, Salmonella, Listeria, Campylobacter
- Routine micro- measuring Total Viable Organisms, yeast and molds. Typically done with surface swabs
- Mycotoxin- measuring toxic substances in feed grains that are caused by molds
- Pesticides residue- monitoring pesticide residues in food

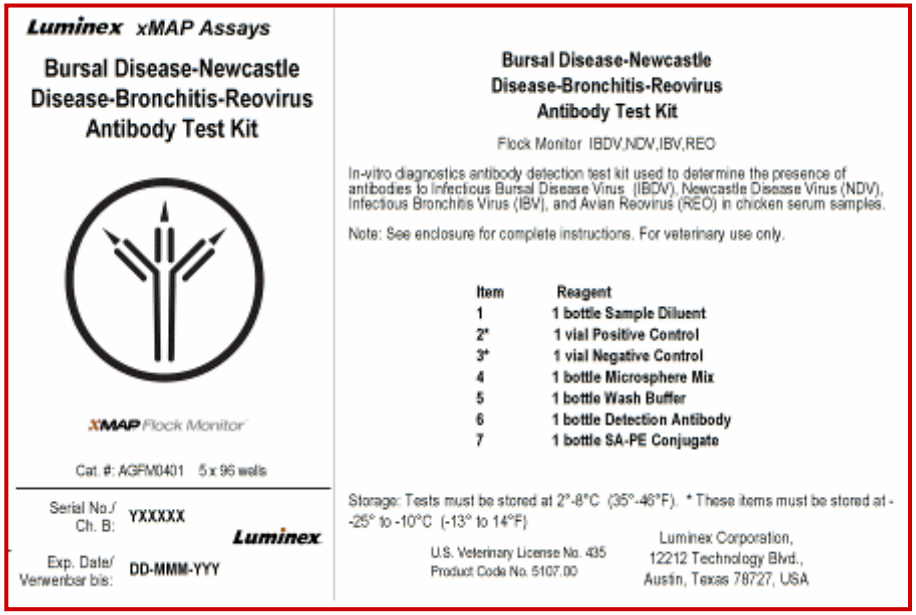
Veterinary Testing Market

- Focused on Production Animal testing (as opposed to companion animal)
- Health management of production animals, specifically cattle, poultry, and swine
- Tests conducted for surveillance of exotic diseases
- Diagnosis and possible eradication of endemic diseases

Sources: Customer interviews, industry and market reports.

Initial Product- xMAP Flock Monitor Assay

- 6 plex kit and reagents used to assess flock health by monitoring immune response (antibody levels) in the flock
- Producers routinely test high value breeding and laying flocks for protection against multiple pathogens endemic in poultry
- Flocks with persistent infections cause multiple problems
  - Decrease in feed conversion (increasing feed costs)
  - Increase in vaccine / treatment costs
- Current launch plans include a reagent launch in April ’10, and a USDA-licensed Kit launch in 2011


Luminex xMAP Assays

Bursal Disease-Newcastle
Disease-Bronchitis-Reovirus
Antibody Test Kit

xMAP Flock Monitor

Cat. #: AGFM0401 5 x 96 wells

Serial No./ Ch. B: YXXXXX

Exp. Date/ Verwendbar bis: DD-MMM-YYY

Luminex

Bursal Disease-Newcastle
Disease-Bronchitis-Reovirus
Antibody Test Kit

Flock Monitor IBDV,NDV,IBV,REO

In-vitro diagnostics antibody detection test kit used to determine the presence of antibodies to Infectious Bursal Disease Virus (IBDV), Newcastle Disease Virus (NDV), Infectious Bronchitis Virus (IBV), and Avian Reovirus (REO) in chicken serum samples.

Note: See enclosure for complete instructions. For veterinary use only.

Item	Reagent
1	1 bottle Sample Diluent
2*	1 vial Positive Control
3*	1 vial Negative Control
4	1 bottle Microsphere Mix
5	1 bottle Wash Buffer
6	1 bottle Detection Antibody
7	1 bottle SA-PE Conjugate

Storage: Tests must be stored at 2°-8°C (35°-46°F). * These items must be stored at -25° to -10°C (-13° to 14°F)

U.S. Veterinary License No. 435
Product Code No. 5107.00

Luminex Corporation,
12212 Technology Blvd.,
Austin, Texas 78727, USA

Near Term Goals and Plans

We will establish a beachhead in each of the target markets with products that solve customer's unmet needs and provide Luminex a highly differentiated / high value entry point

Ag-Bio Testing Market

- Genetically modified organism testing
  - Herbicide and pesticide resistant crops
- $20 MM market
- Plex size between 3 and 20
- Cross licensing of traits driving "stacked traits" and the need to multiplex

Food Safety Testing Market

- Salmonella subtyping Panel
- $12 MM market
- 51 plex identifies top 100 salmonella serotypes
- Classical methods take 3 days vs. 3 hours for xMAP method

Veterinary Dx Testing Market

- Flock Monitor Assay is first entry
- Expand poultry testing menu to include additional tests
- Move into related markets such as porcine testing

Outline

- Life Science Research Products
- Agricultural Science Products
- **Diagnostic Products**
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Molecular Diagnostics

- Our strategy is to target products with the following characteristics:
  - Differentiated due to our technology
  - Addresses a clear clinical unmet need
  - Testing is already performed by legacy methods
  - Market size of $50M or greater globally
- We will also make strategic investments in personalized medicine applications
  - CYP2D6 FDA submission

Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - **Gastrointestinal Panel**
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Gastrointestinal Panel

	U.S. Market	Global Market
Volume of Tests	0.9-1.2M	1.4-1.8M
$US	$50-65M	$78-100M

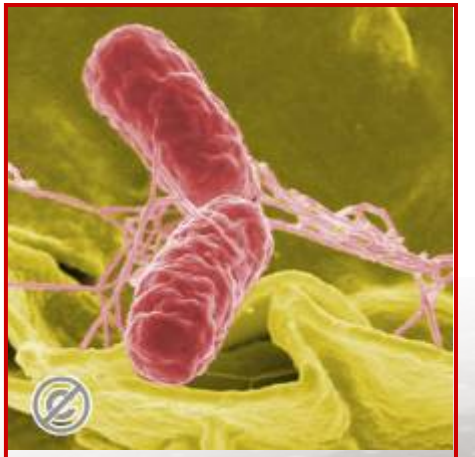
Unmet Clinical Need:

- GI infections are common but a single diagnostic panel is not available
- Current testing is slow and laborious (bacterial culture and fluorescence microscopy)
- Correct diagnosis will lead to rapid treatment with the correct antibiotic

Preliminary Clinical Performance

- Small alpha clinical study conducted to prepare for full validation
  - Concordance for all but two samples
  - Discordant calls were confirmed in our favor
- Development timelines
  - CE Mark late 2010/early 2011
  - US IVD 2011/2012

Giardia



Salmonella

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Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - **Fungal Panel**
  - Meningitis Panel
  - CYP2D6
  - NeoPlex4

Fungal Panel

	U.S. Market	Global Market
Volume of Tests	450-600K	800-1200K
$US	$25-33M	$45-67M

Unmet Clinical Need:

- Fungal infections are found in immunocompromised patients (e.g. transplant, cancer and HIV patients)
- Symptoms are not differentiated and infection is life-threatening
- Rapid diagnosis would lead to correct anti-fungal treatment, saving lives

Fungal Panel: Clinical Samples

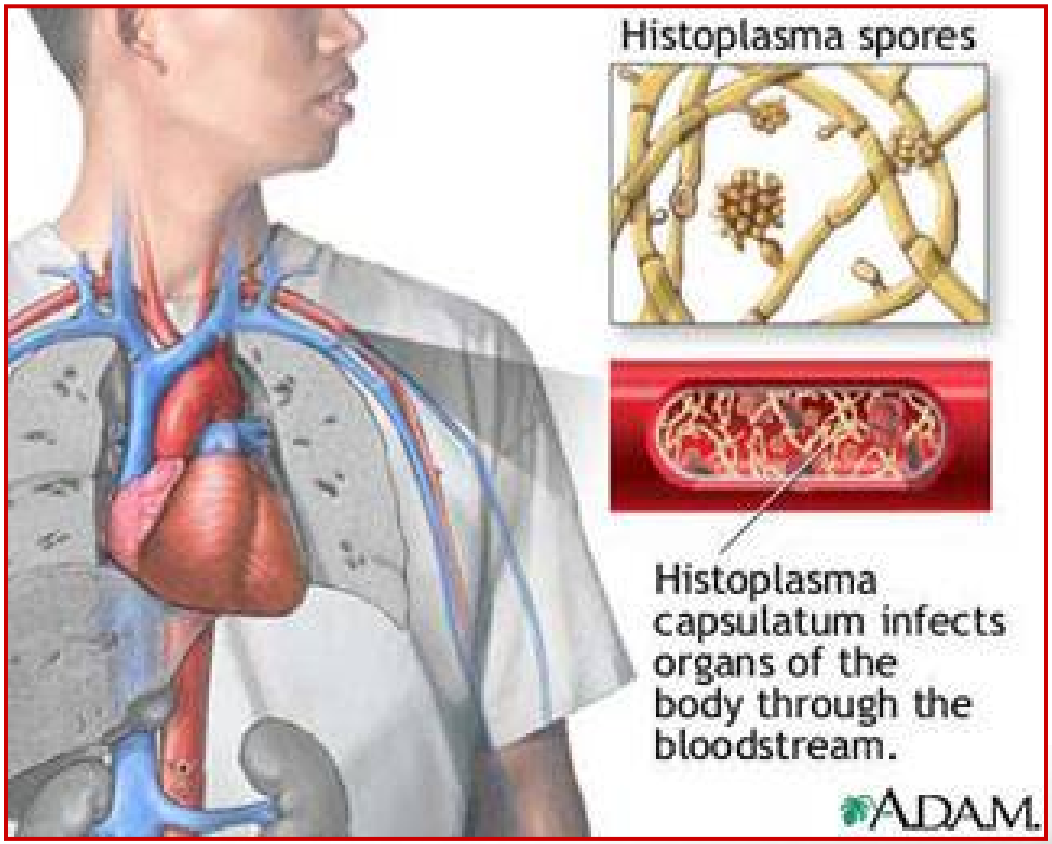
Human Bronchial Alveolar Lavage (BAL)

Clinical specimen	Reference method diagnosis	Detected	MFI	Co-infection	Species	MFI
BAL 1	*A. fumigatus*	YES	15196	YES	*C. albicans*	945
BAL 2	*A. fumigatus* & *Scedosporium ap (P.boydii)*	YES (both)	4303 9760	YES		
BAL3	*C. albicans*	YES	588	NO		
BAL 4	*Fusarium*	YES	16193	NO		
BAL 5	*C. parapsilosis*	YES	13512	YES	*C.albicans* *Scedosporium ap.* *P. jirovercii*	12388 2143 1893
BAL 6	*C. albicans* + other fungus	YES	553	YES	*C. glabrata*	2103

Average background MFI range: 65 - 108

Fungal Panel Timeline

- Clinical validation in 2010
- CE Mark: 2011



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Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - **Meningitis Panel**
  - CYP2D6
  - NeoPlex4

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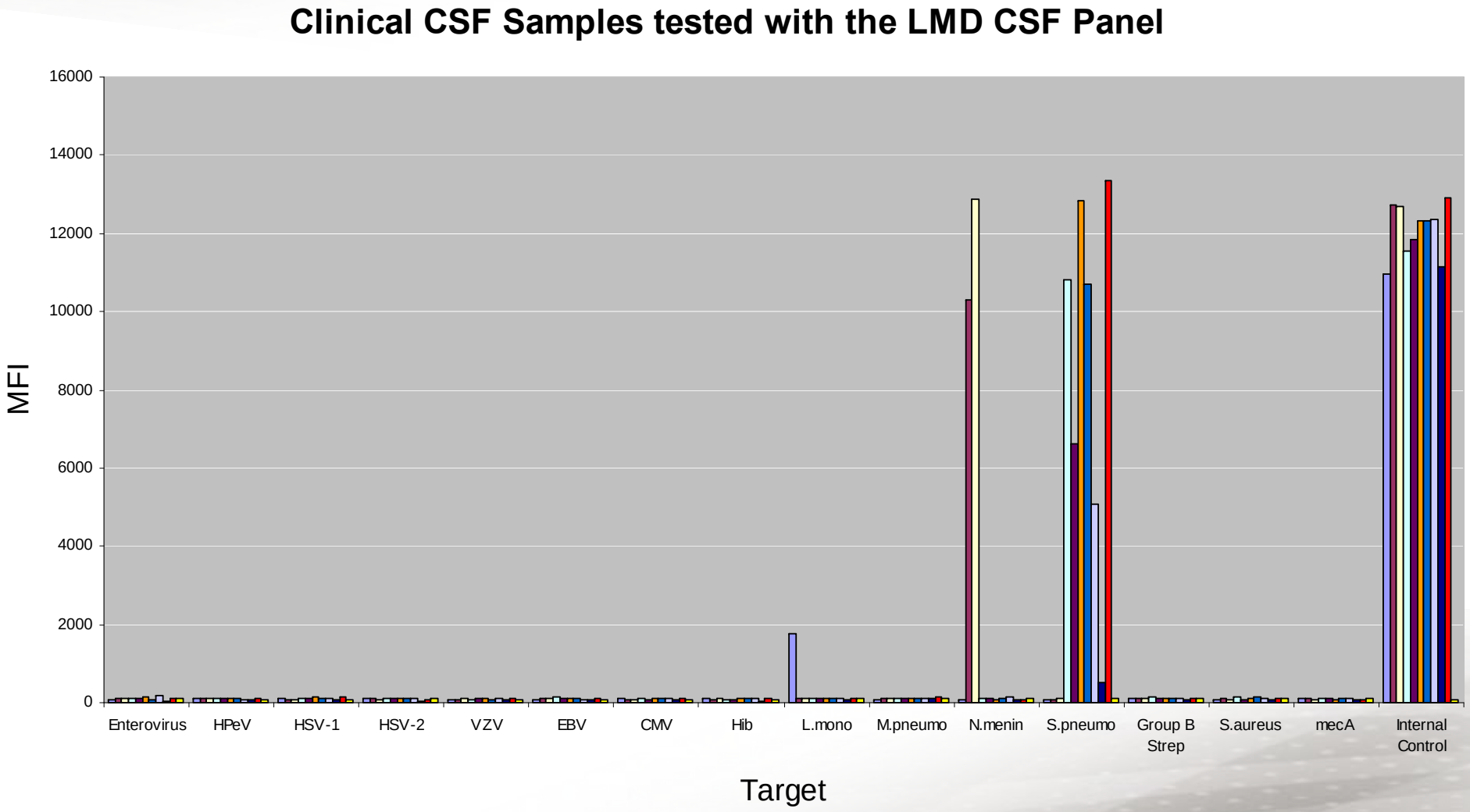
Meningitis Panel

	U.S. Market	Global Market
Volume of Tests	230-300K	420-600K
$US	$17-23M	$31-45M

Unmet Clinical Need:

- Undifferentiated symptoms make diagnosis difficult
- Sample type is CSF; sample is very limited in volume
- Bacterial infections life-threatening; viral infections generally less dangerous

Meningitis Panel: Clinical Samples



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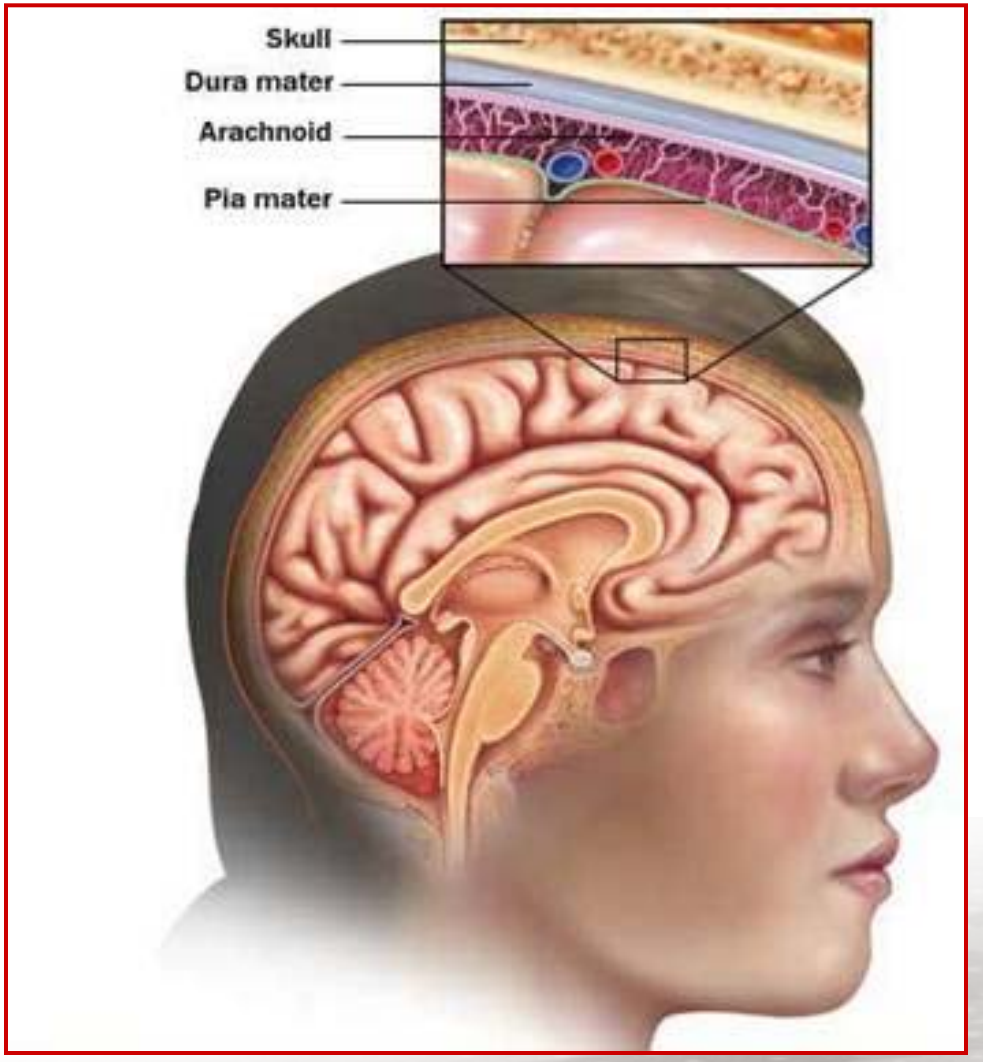
Meningitis Panel Timelines

- Clinical validation in 2010 & 1H 2011
- CE Mark: 2011



Luminex

Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - **CYP2D6**
  - NeoPlex4

CYP2D6

- CYP2D6 is a liver enzyme that metabolizes 25% of all prescription drugs
- Some people have mutated CYP2D6 genes:
  - Poor efficacy
    - Tamoxifen for breast cancer recurrence
    - Codeine for pain
  - Adverse Events
    - SSRIs for depression

CYP2D6

- Luminex has submitted its CYP2D6 test to FDA
- Predicate device is Roche's AmpliChip
- Current market is modest but market potential is very large
- Luminex has developed this test as a strategic entry into personalized medicine
  - Use strong presence in Life Science Research and move downstream
  - Use CYP2D6 IVD to attract personalized medicine biomarkers
  - Expand menu over time as applications and markets grow
- FDA clearance and CE Mark expected in 2H 2010

Outline

- Life Science Research Products
- Agricultural Science Products
- Diagnostic Products
  - Gastrointestinal Panel
  - Fungal Panel
  - Meningitis Panel
  - CYP2D6
  - **NeoPlex4**

Benefits of Newborn Testing

- Identify manageable diseases before symptoms arise and damage occurs
- Early treatment (diet and medications)
  - Prevents severe morbidity and mortality
  - Allows many to lead normal lives
- Examples:
  - Congenital Hypothyroidism (CH) – 1 in 3000 births
    - under-production of thyroid hormones essential for normal physical and mental development.
    - Treated with oral thyroxine throughout life
    - Late diagnosis results in mental disabilities
  - Congenital Adrenal Hyperplasia (CAH) – 1 in 15,000
    - Low production of enzyme causes overproduction of male hormones in males and females
    - Late diagnosis results in ambiguous genitalia, heart failure and death
    - Treated with steroid supplements

Newborn Screening Worldwide Testing Market

- Select Established Markets
  - U.S. – 4.5M births, 29 tests per newborn (35 major labs)
  - EU – 5M births, testing panels vary by country
  - Brazil – 3.5M births, consolidated customer base
- Total Existing Market: $78-100M
- Select Emerging Markets
  - China – 19M births
  - India – 25M births

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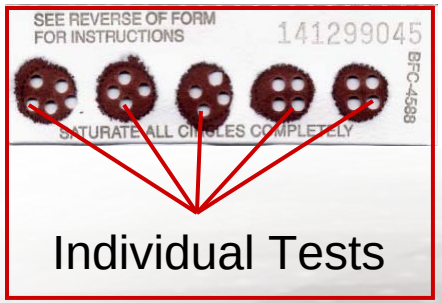
NeoPlex – xMAP for Newborn Samples

- Value of Multiplexing
  - Some accounts test >1,000 samples per day
  - Multiple tests required per sample
  - Testing efficiency is major issue at these volumes
  - NeoPlex combines multiple tests into a single process
  - 4X less work required vs. competition



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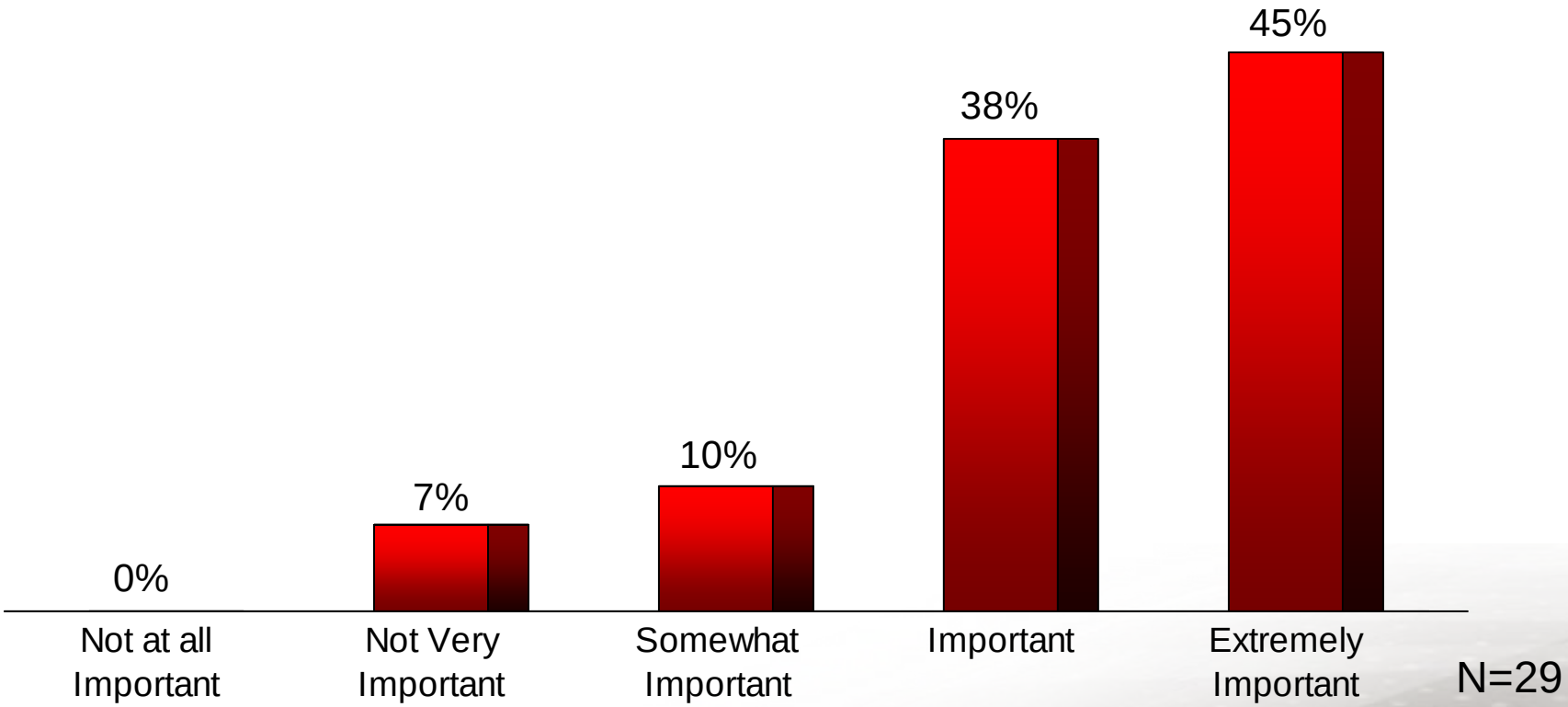
Newborn Testing Customer Survey

Key Differentiating Feature vs. Competitor

Importance of ability to test T4, TSH, 17-OHP and IRT in a *single* punch spot



Source: Survey by third party consultant

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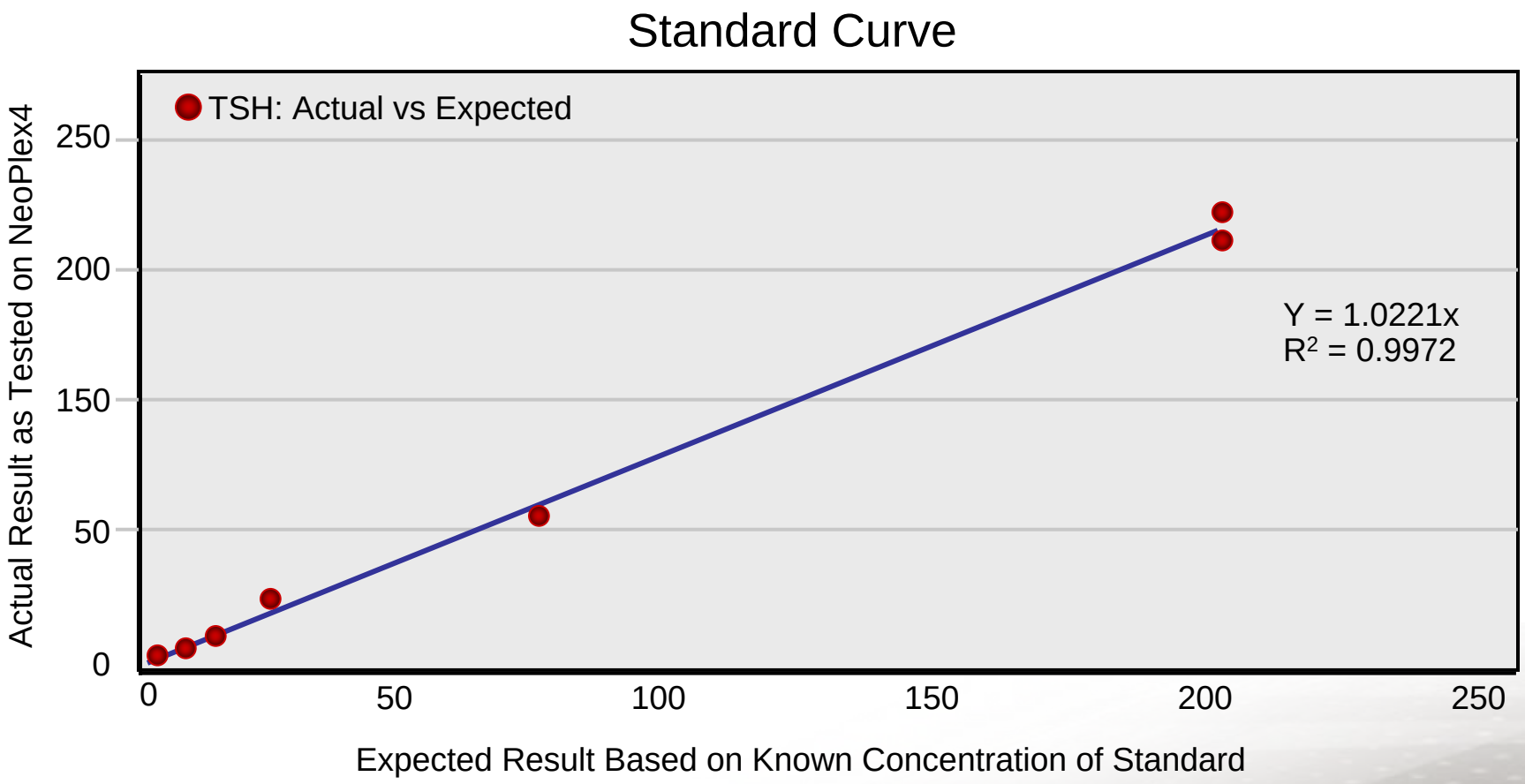
NeoPlex4 TSH Performance

Actual Result as Tested on NeoPlex4



Source: Independent state department of health laboratory

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Summary

H1 2010	CF60 US IVD
	Flock Monitor Reagents
H2 2010	RVP-Fast US IVD
	NeoPlex4 CE Mark
	CYP2D6 US IVD & CE Mark
	GI CE Mark
	Custom Assay Service
2011	NeoPlex4 US IVD
	GI US IVD
	Fungal CE Mark
	Meningitis CE Mark
	Flock Monitor USDA

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Financials




Harriss Currie
Vice President
Chief Financial Officer

Summary Results (2005 – 2009)

	2009	2008	2007	2006	2005
Revenues	$120,643	$104,447	$ 75,010	$ 52,989	$42,313
Gross Profit	81,294	70,946	46,094	32,252	22,321
Gross Margin	67%	68%	61%	61%	53%
Total Operating Expenses	73,895	67,593	63,512	32,833	25,817
Operating Profit (Loss)	7,399	3,353	(17,418)	(581)	(3,496)
Other	10,330	(296)	14,707	2,088	830
Net Profit (Loss)	$ 17,729	$ 3,057	$ (2,711)	$ 1,507	$ (2,666)
Net Profit (Loss) Per Share	$ 0.44	$ 0.08	$ (0.08)	$ 0.05	$ (0.09)
Shares Outstanding	40,562	37,868	34,361	31,434	30,990

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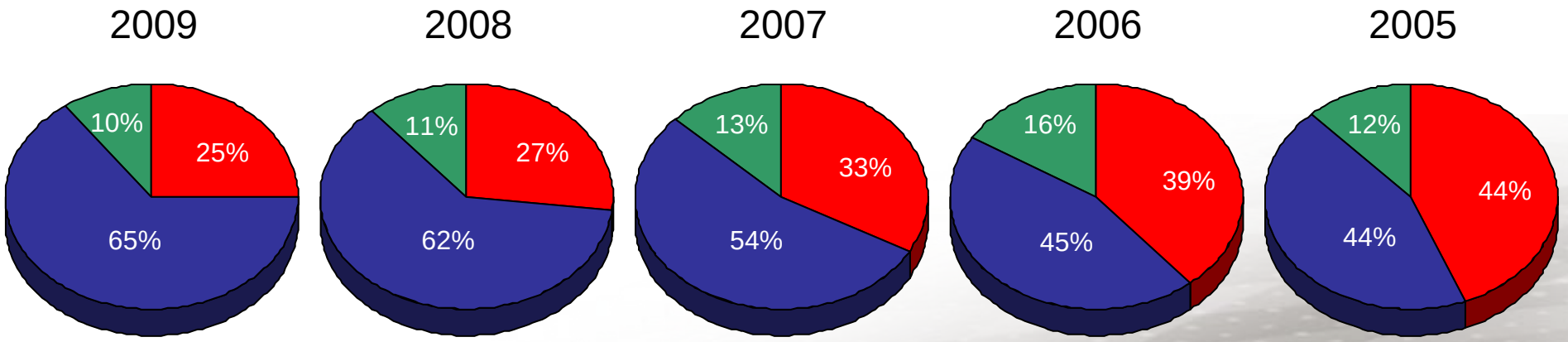
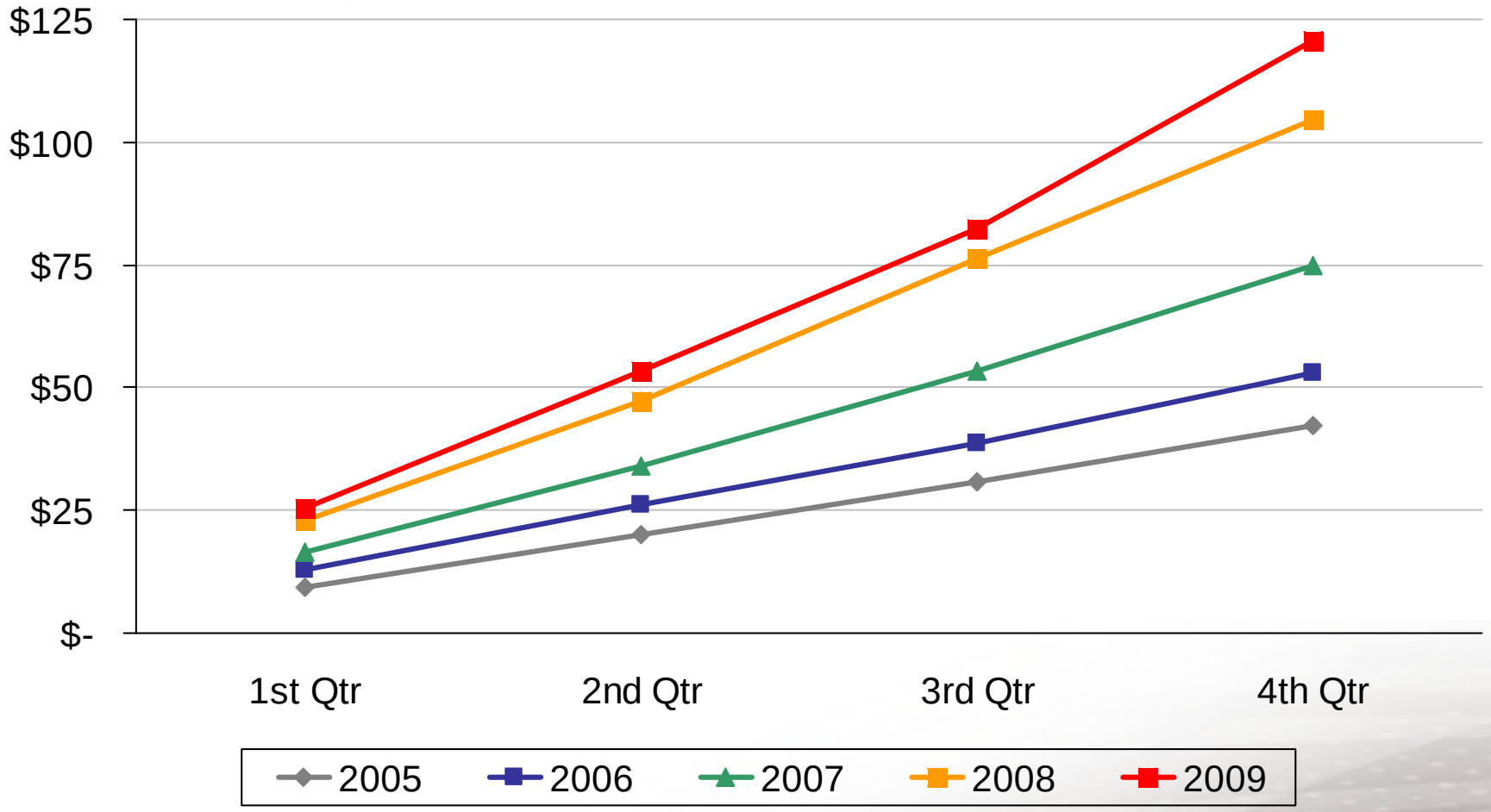
Summary Revenue Mix 2005 - 2009

	2009		2008		2007		2006		2005	
	$	%	$	%	$	%	$	%	$	%
System Revenue	$ 30,711	25%	$ 28,136	27%	$ 24,428	33%	$ 20,644	39%	$ 18,812	44%
Consumable Revenue	28,380	24%	31,724	30%	19,199	26%	15,676	30%	13,084	31%
Royalty Revenue	18,312	15%	14,897	14%	10,244	14%	8,228	16%	5,255	12%
Assay Revenue	31,054	26%	18,715	18%	11,323	15%	19	0%	-	0%
Other Revenue	12,186	10%	10,975	11%	9,816	13%	8,422	16%	5,162	12%
Total Revenue	$ 120,643	100%	$ 104,447	100%	$ 75,010	100%	$ 52,989	100%	$ 42,313	100%

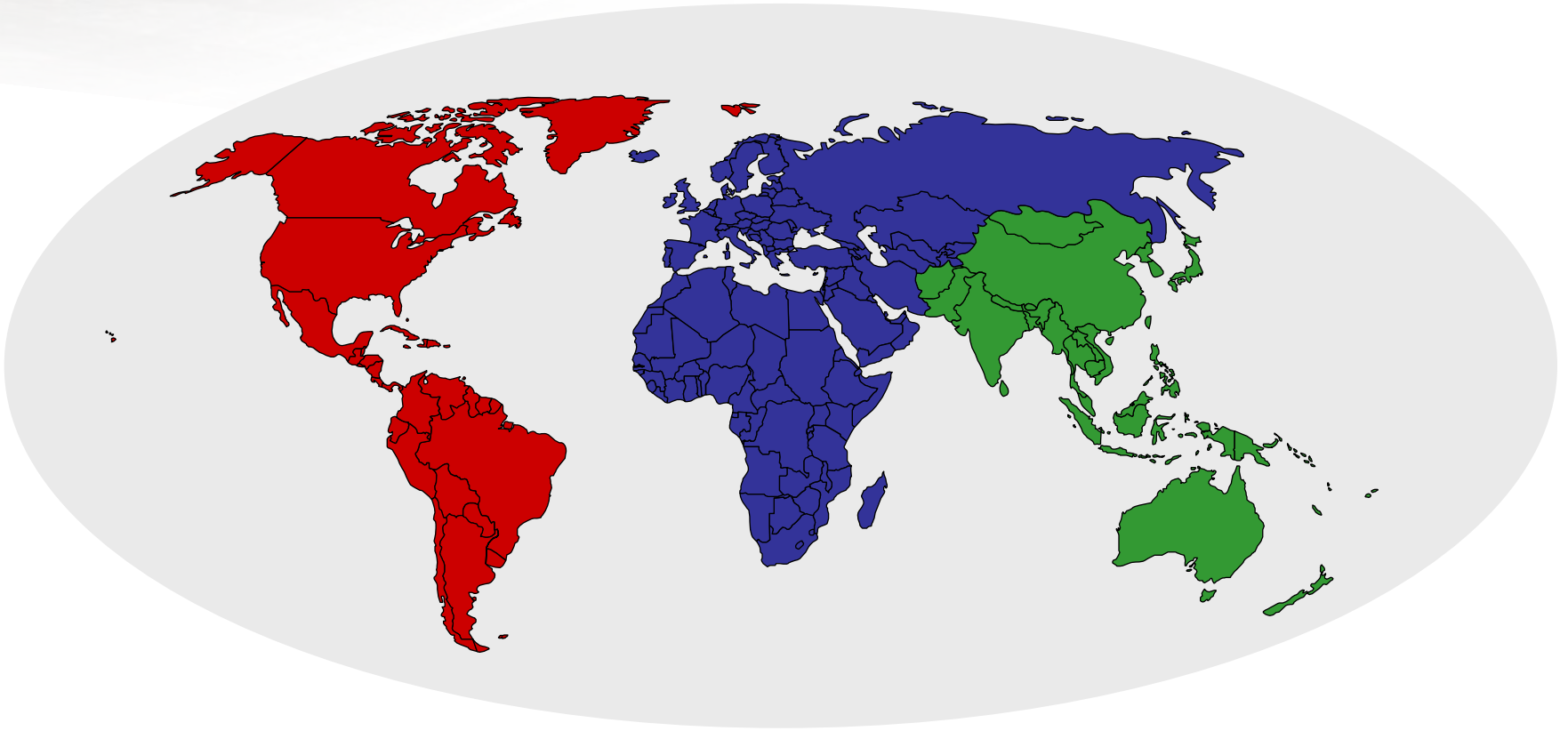


YTD Quarterly Revenues 2005 - 2009

($ in millions)



Geographical Revenue Distribution For 2009



As Reported:

Americas: 85% Europe, Middle East, Africa: 9% Asia/Pac: 6%

Company Estimates:

Americas: 60 - 70% Europe, Middle East, Africa: 25 - 30% Asia/Pac: 10%

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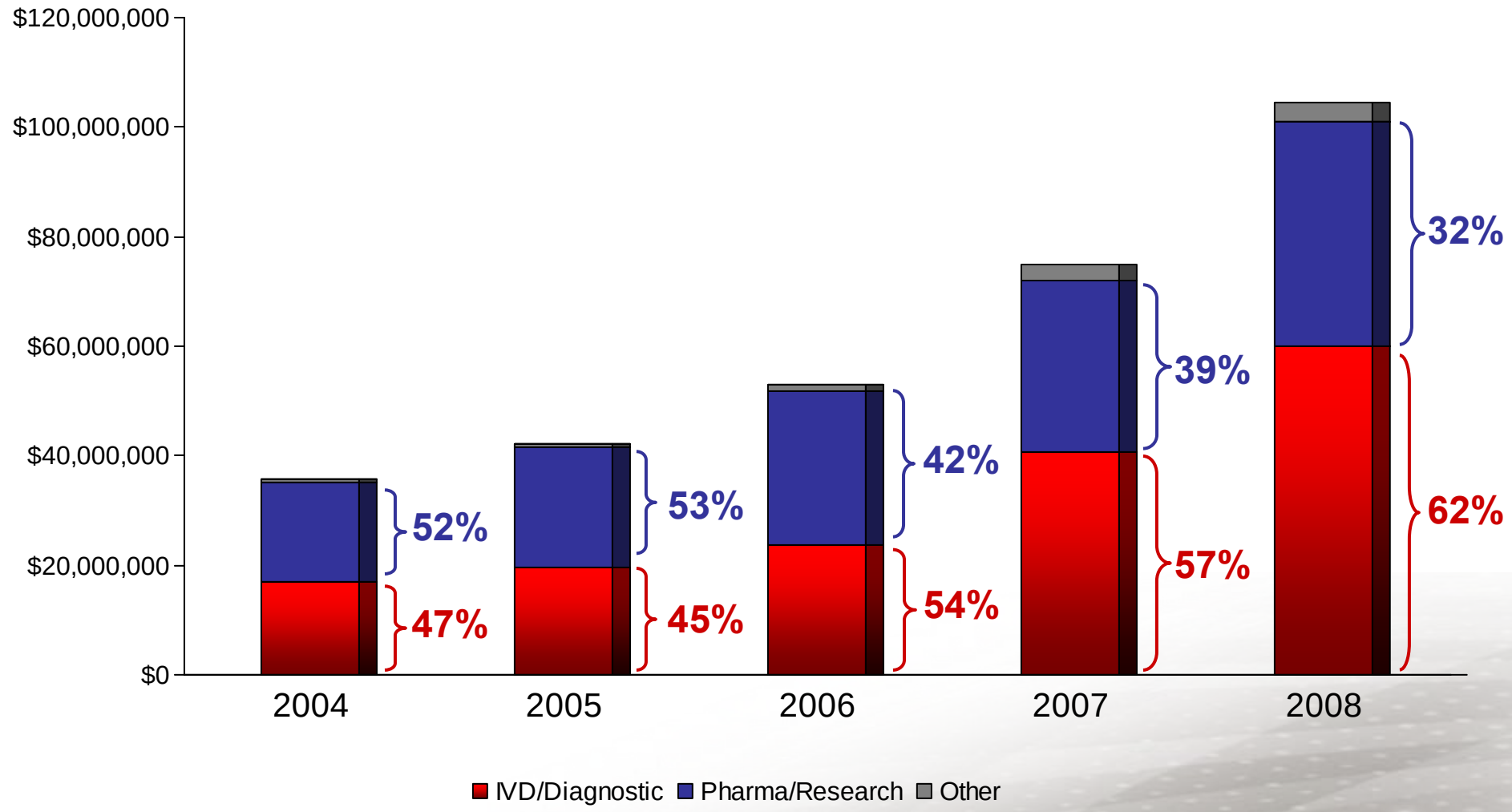
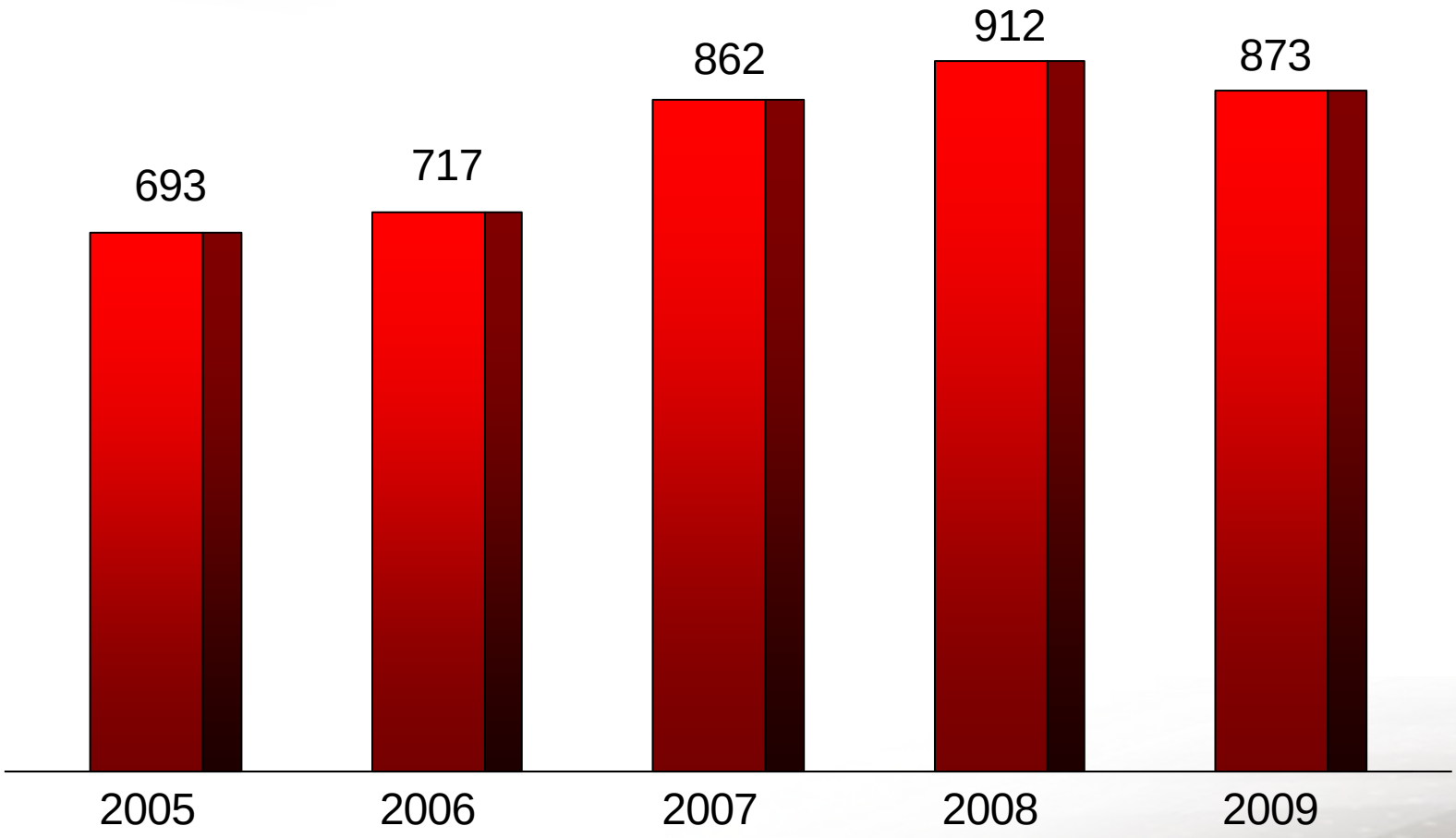
Revenues By Market

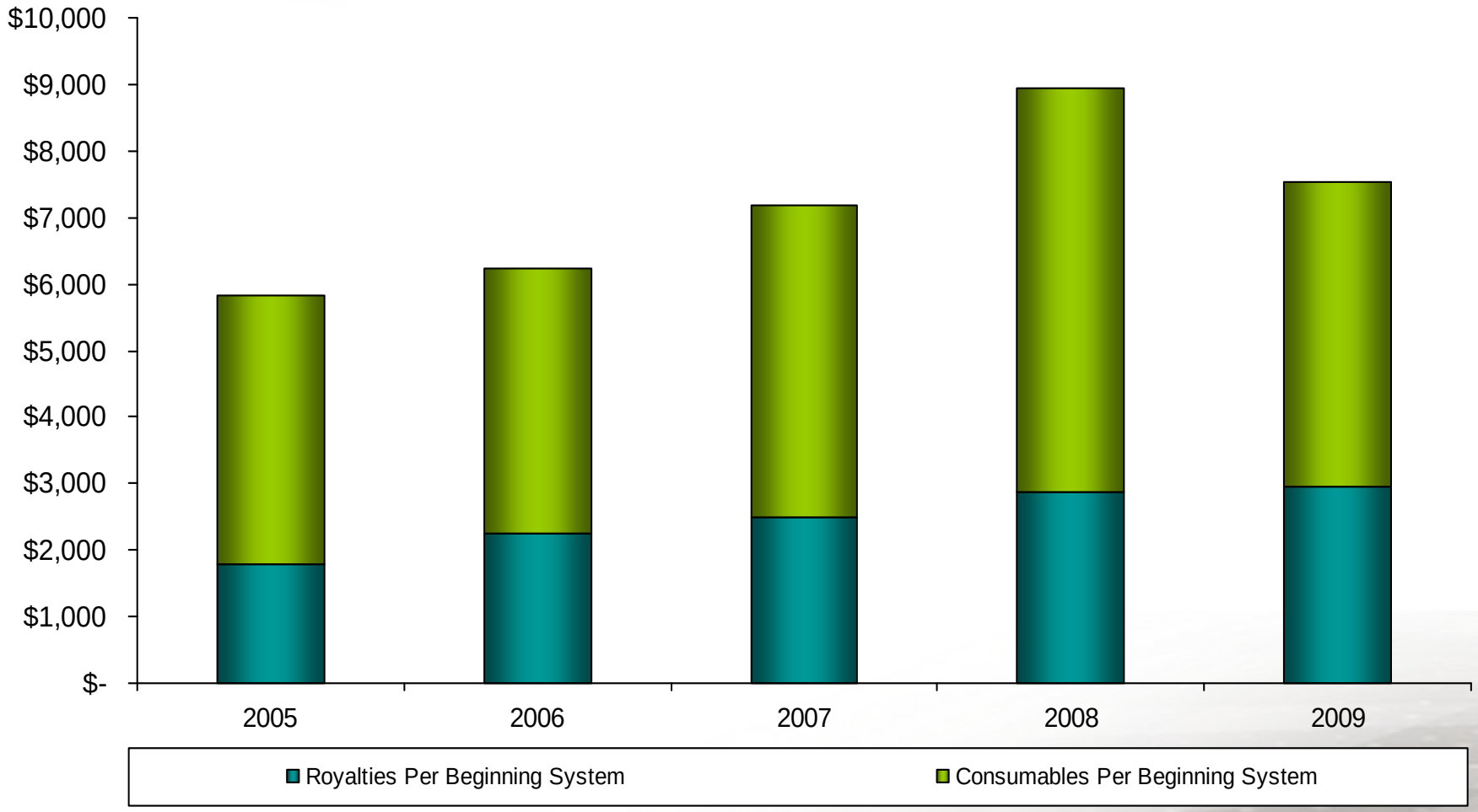
($ in thousands)



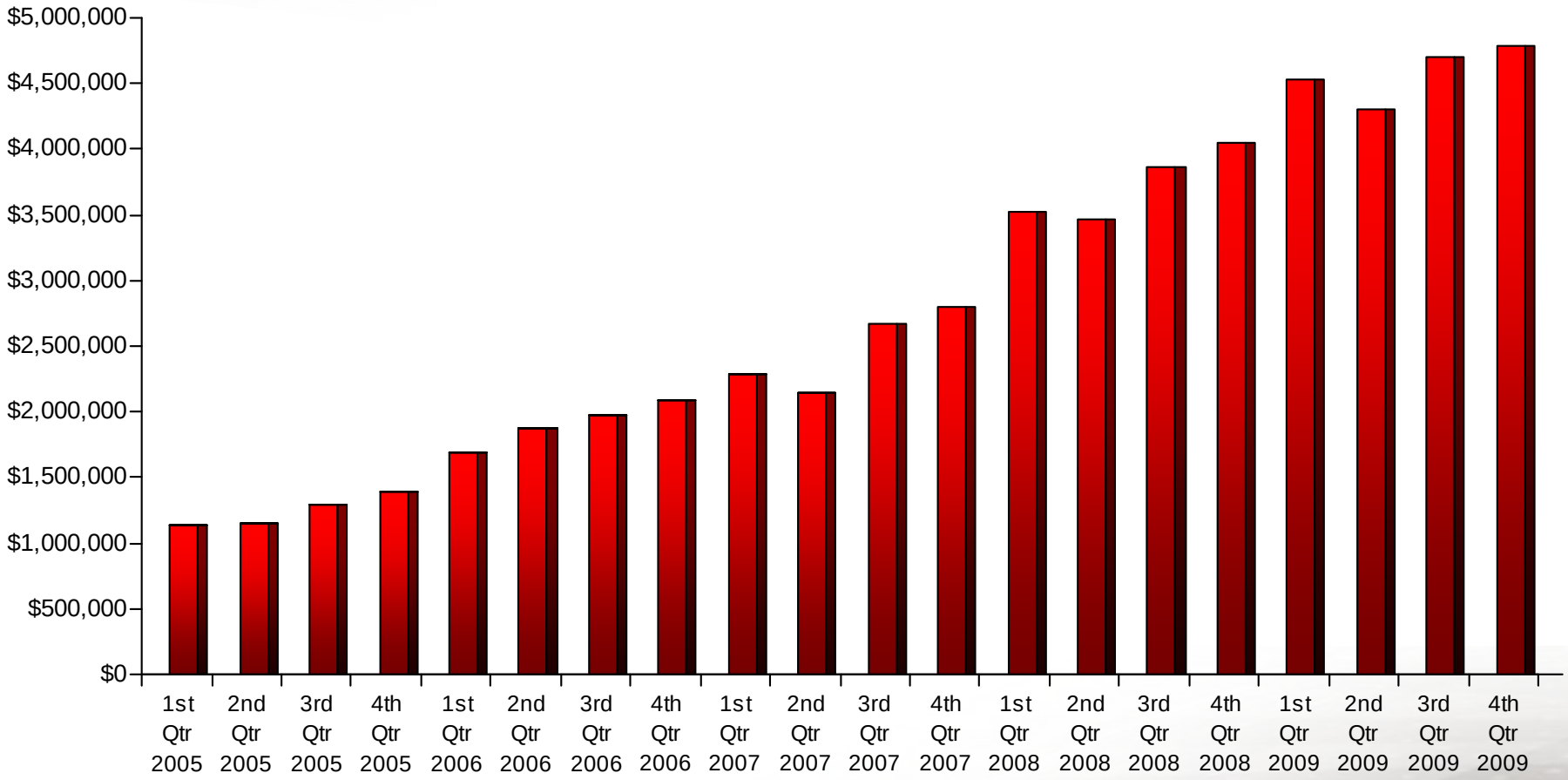
Total System Shipments



Royalties/Consumables Per Beginning System

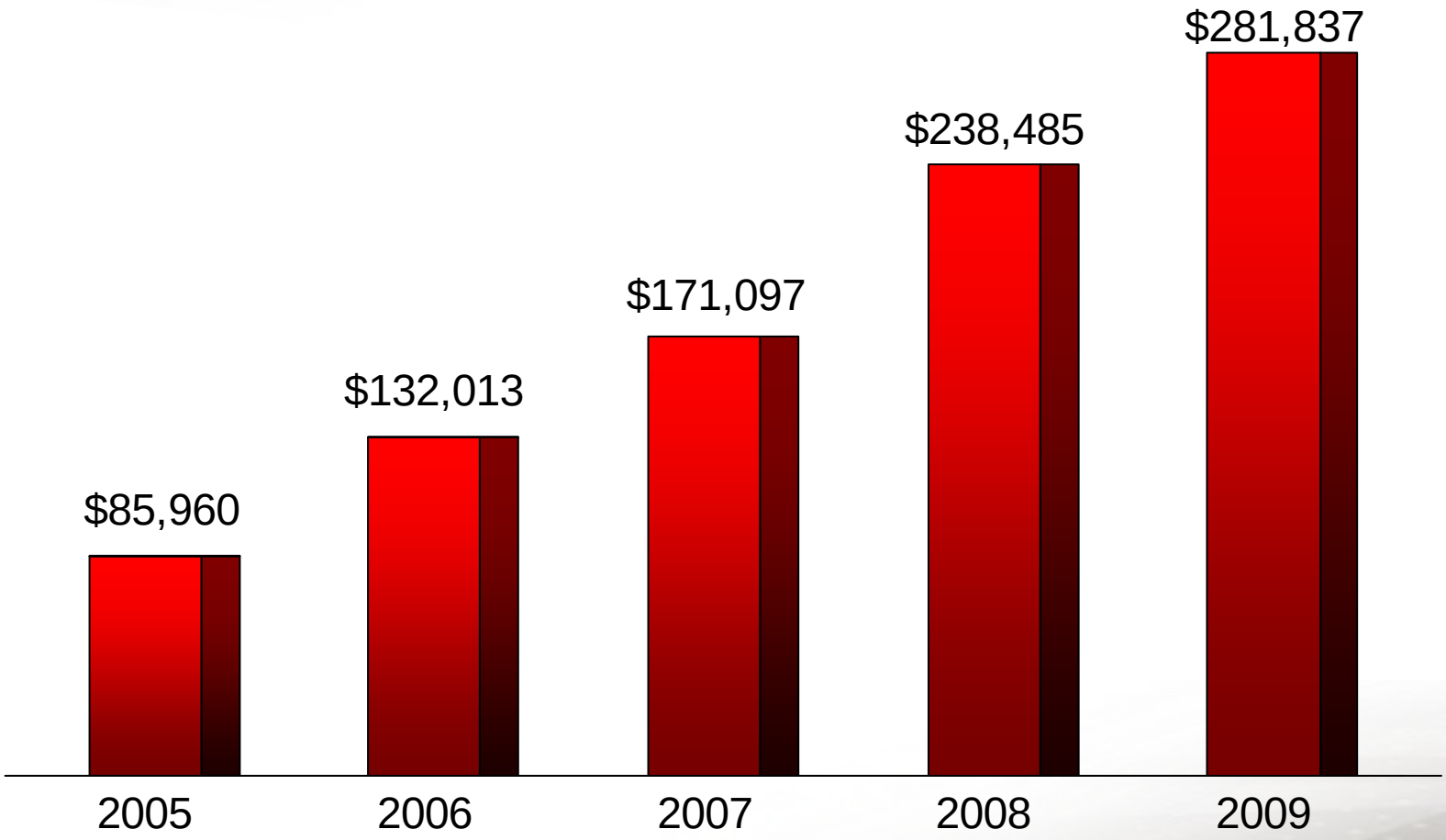


Royalty Revenue Eliminated/Pro-Forma

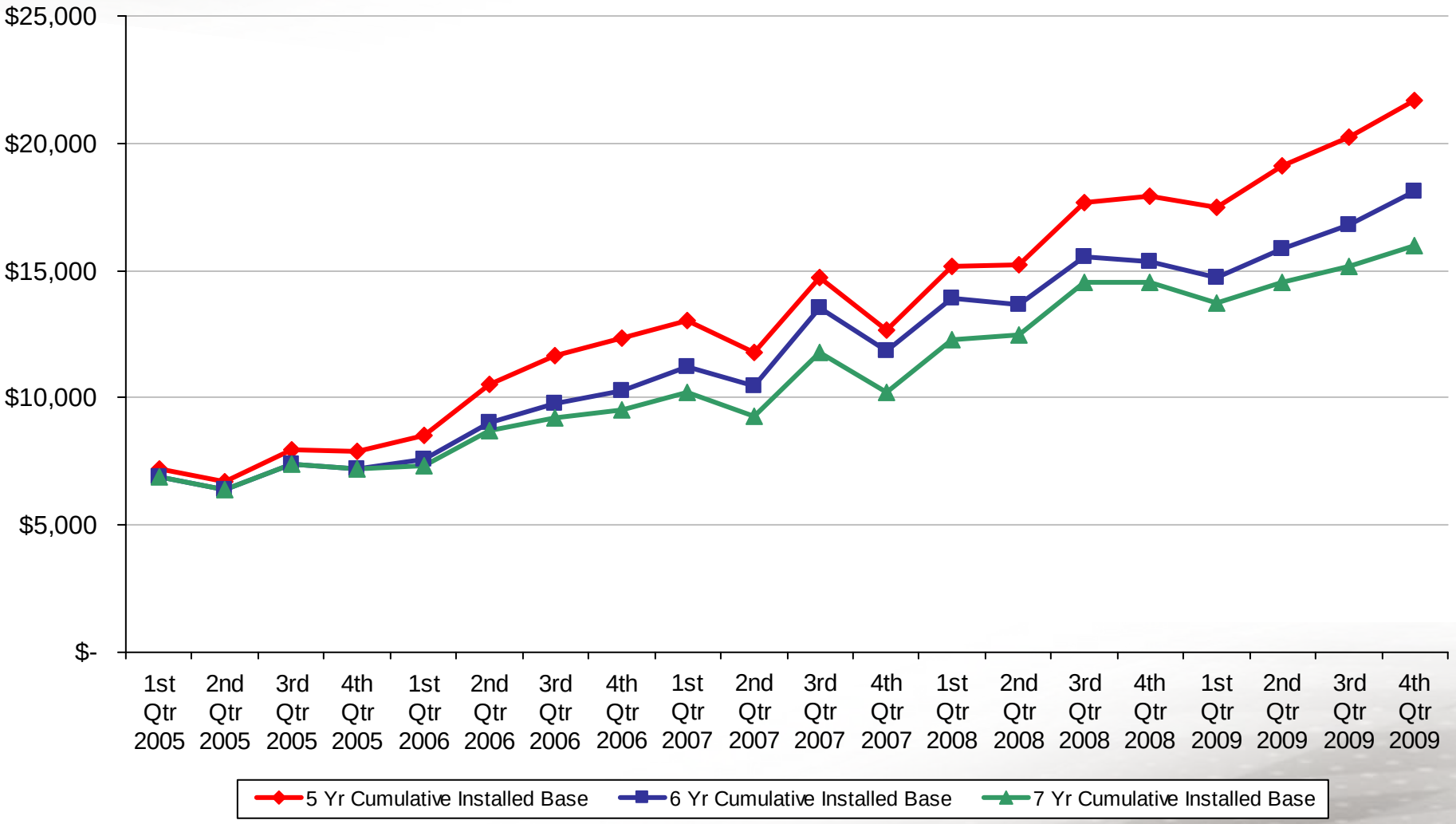


End User Assay Sales (Partner reported)

($ in thousands)



Total End User Assay Sales per System



Release of the Valuation Allowance on US Deferred Tax Assets

- Released VA on US DTA in the 4th Qtr of 2009
  - "More likely than not…"
  - $14.7mm benefit in 4th Qtr and Full Year 2009
  - Deferred Tax Asset of $15.8mm at 12-31-2009
    - Direct offset against US and State income taxes payable
- Results in temporarily elevated effective tax rate
  - ~50% for the full year 2010

Country	United States	Canada	Netherlands	China	Japan
Corp Tax Rate	35%	35%	25%	25%	40%
IS Effect	Full Rate	Taxes Paid	Full Rate	Taxes Paid	Taxes Paid

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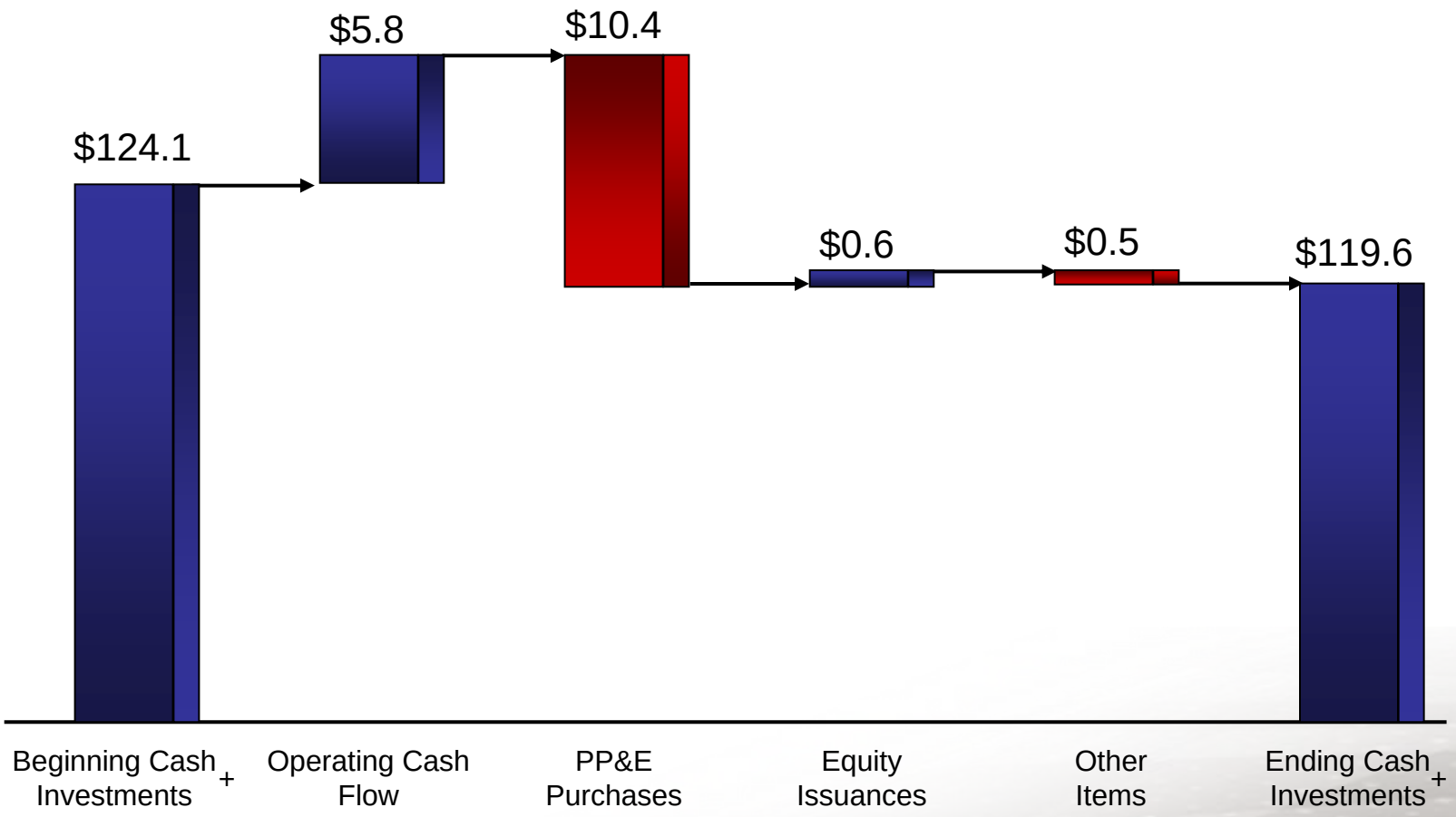
2009 Cash & Investment Flow

($ in millions)



Financial Outlook

	Target	Actual
Revenue Growth	20+% CAGR	2005 – 2009: 30%
Gross Margin %	65% - 75% of Revenue	2009: 67%
Research & Development	15% of Revenue	2009: 17%
Pretax Income	25% - 35% of Revenue	2009: 6%*

* After elimination of SUNY lawsuit settlement and benefit from release of VA

- 2010 Guidance: $138mm – $148mm
  - Representing growth potential of 15% to 23%
  - 5 year CAGR of ~27%

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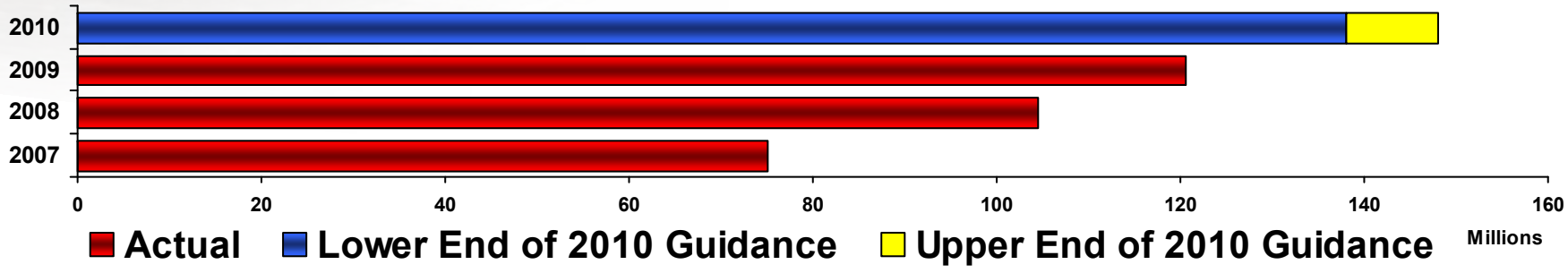
Clarification of Guidance



Revenue Components	Lower End of Range	Upper End of Range

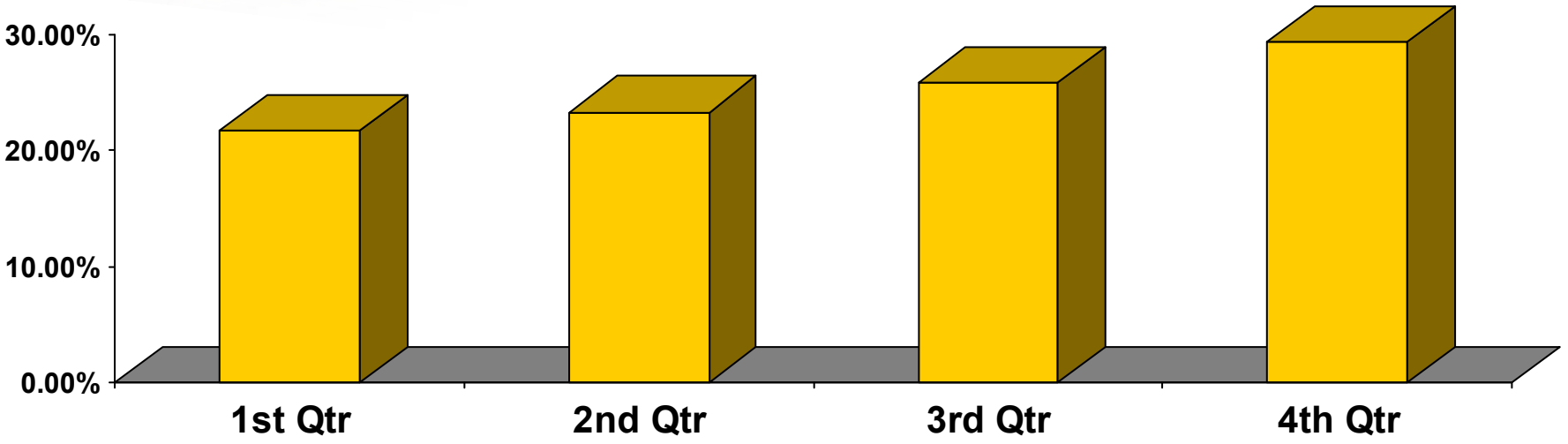
System Revenue	• Sustained strength in system sales
	  • Full Year FM3D
	  • MagPix launch
		• Earlier MagPix launch

Consumable Revenue	• Return to growth in consumables	• Accelerated partner expansion and development resulting in increased consumable growth
Royalty Revenue	• Consistent royalty growth	• Accelerated partner expansion resulting in increased royalty growth

Assay Revenue	• Modest Flu Season (2009 w/out H1N1) and continued expansion of accounts
	• Assay launches throughout the year
	  • Flock Monitoring, Gene Expression, CF Fast Products, NeoPLEX (ex US), GI (ex US)
		• Heavier flu season
		• Accelerated launches and approvals:
		  • Flock Monitoring
		  • Gene Expression
		  • CF Fast Products
		  • NeoPLEX (ex US)
		  • GI (ex US)

Clarification of Guidance

Historic Quarterly Revenue Distribution



	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
@ $138mm *	30mm	32mm	36mm	40mm
@ $148mm *	32mm	34mm	38mm	44mm

* - Should not be interpreted as quarterly guidance and is presented for illustrative purposes only

- Current year guidance of $138mm to $148mm
- 4th Qtr typically the largest capital equipment quarter
- Significant product launches and clearances expected in 2H

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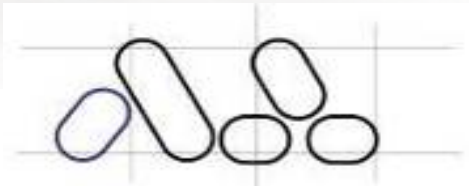
Financial Effects of ALL and BSD



Advanced Liquid Logic, Inc.

- License and Collaboration Agreement
  - Potential Milestone Payments

BSD ROBOTICS

- Share purchase agreement for 100% of the shares of BSD Robotics
  - Cash: $5,000,000 USD
  - Contingent earn out payments: $1,444,000 AUD
  - To close in the second quarter

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Summary

Patrick Balthrop

Chief Executive Officer

Future of Mid-Range Multiplexing

Guiding Principles

- No market grows forever; markets move; analyze, anticipate, prepare
  - Platform Product Line: emerging applications, proteomic research, proteins and nucleic acids

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- Know our strengths, leverage them, solve customer problems
  - Don’t pretend; understand basis of competition

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Future of Mid-Range Multiplexing

Guiding Principles

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  - Platform Product Line: emerging applications, proteomic research, proteins and nucleic acids
- Smaller, faster, better, cheaper and easier will always win
- Know our strengths, leverage them, solve customer problems
  - Don’t pretend; understand basis of competition
- Capitalize on Convergence; Differentiate
  - Systems + Multiplexing + Assay Menu + Automation + Nucleic Acids/ Proteins

Strategy

1) Relentlessly build the installed base for xMAP
   - 20X or more next largest competitor
   - Moving Up and Moving Down
   - What is an insurmountable lead?

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Strategy

1) Relentlessly build the installed base for xMAP
   - 20X or more next largest competitor
   - Moving Up and Moving Down
   - What is an insurmountable lead?
2) Capitalize on Convergence
   - Need for multiplexing, proteins and nucleic acids, bead format
   - Identify emerging markets, leverage installed base
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Strategy

1) Relentlessly build the installed base for xMAP
   - 20X or more next largest competitor
   - Moving Up and Moving Down
   - What is an insurmountable lead?
2) Capitalize on Convergence
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3) Shoot ahead of the duck: Anticipate market movement, move first
   - Re-state markets, as in from culture to molecular diagnostics; automation
   - Seize opportunities: H1N1; high density yields low to mid density volume
   - Do not accept status quo: from either nucleic acids or proteins to both nucleic acids and proteins

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4) Technology doesn’t win; rather, what wins is using technology to solve customer problems

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Investor Event




NASDAQ MarketSite

March 25, 2010