

**2009 INVESTOR DAY** 









# **BioPharmaceuticals**

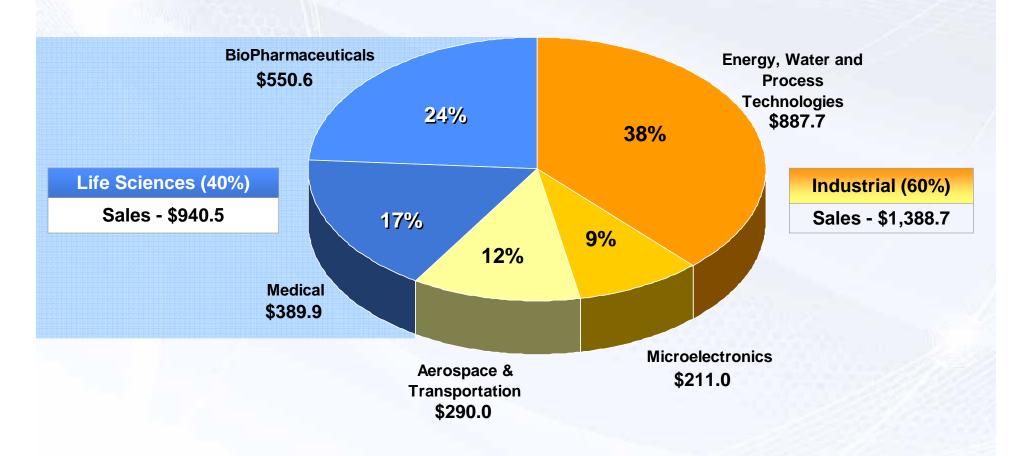
Ken Frank President BioPharmaceuticals December 17, 2009

Sustainable, Profitable Growth

# **Life Sciences**

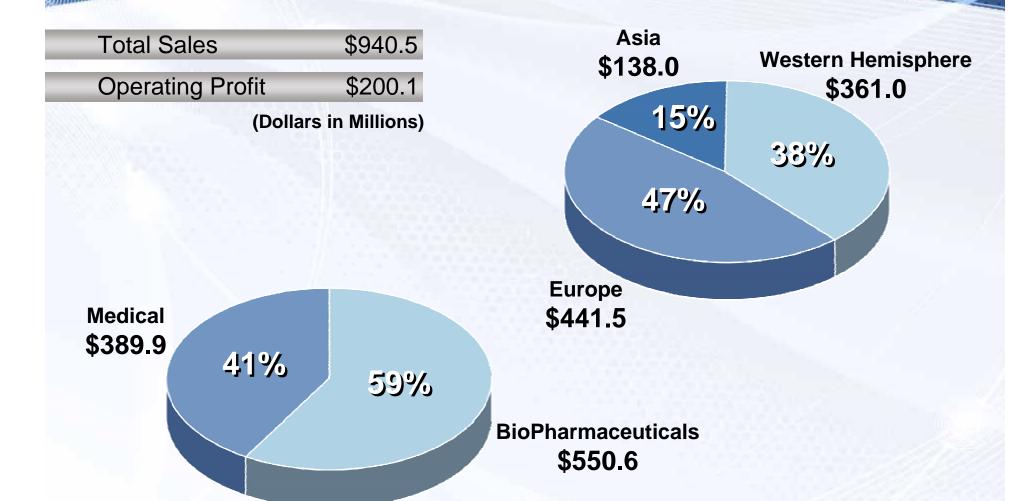
### FY 2009 Total Sales \$2,329.2

(amounts shown in millions)





### **Pall Life Sciences FY09**





# **Pall Life Sciences Business Outlook**

| Actual Rates (\$ Million) | FY09 Actual | FY13 Goals                 |
|---------------------------|-------------|----------------------------|
| Medical                   | 390         | 481 <del>→</del> 521       |
| LC (2)                    | 0.6%        | 5.4% 7.5% <sup>(1)</sup>   |
| BioPharmaceuticals        | 551         | 825 <del></del>            |
| LC (2)                    | 4.7%        | 10.6% 12.6% <sup>(1)</sup> |
| Total Revenue             | 941         | 1,306 1,407                |
| LC (2)                    | 3.0%        | 8.6% 10.6% <sup>(1)</sup>  |
| OP\$                      | 200         | 352 <del>→</del> 418       |
| OP Profit Margin          | 21.3%       | 27.0% 29.7%                |

- (1) 4-year CAGR FY13
- (2) Local currency (LC) is defined as excluding foreign currency translation impact



### Pall Life Sciences: Aligned Global Organization \$1.3 - 1.4 Billion Life Sciences Business by FY13

#### **BioPharm**



\$7.8 B Market Opportunity FY'13

- Process
  - Biotech
  - Biologics (Vaccines)
  - Classic Pharmaceuticals
- Process Monitoring
- ▲ Laboratory Tools
- Diagnostics
  - Proteomics and Genomics
  - OEM Materials & Diagnostics

### **Medical**



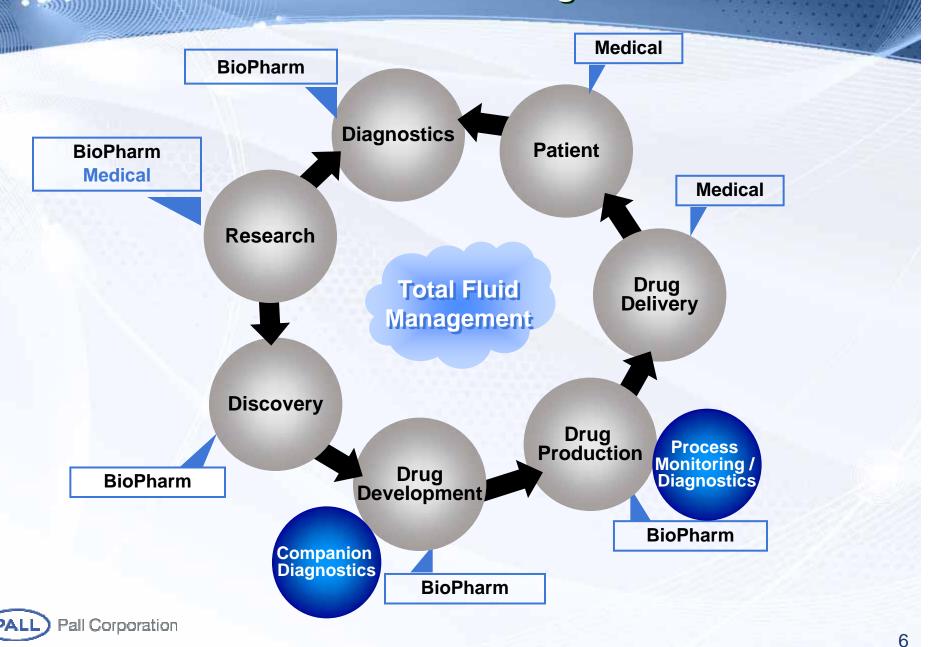
\$6.8 B Market Opportunity FY'13

- Transfusion Medicine
  - Blood
  - Cell Therapy
  - Veterinary Medicine
- ▲ Hospital Infection Control
  - Water
  - Critical Care
  - Surgical Smoke

\$9B Market Today - \$14.6 B Opportunity by 2013



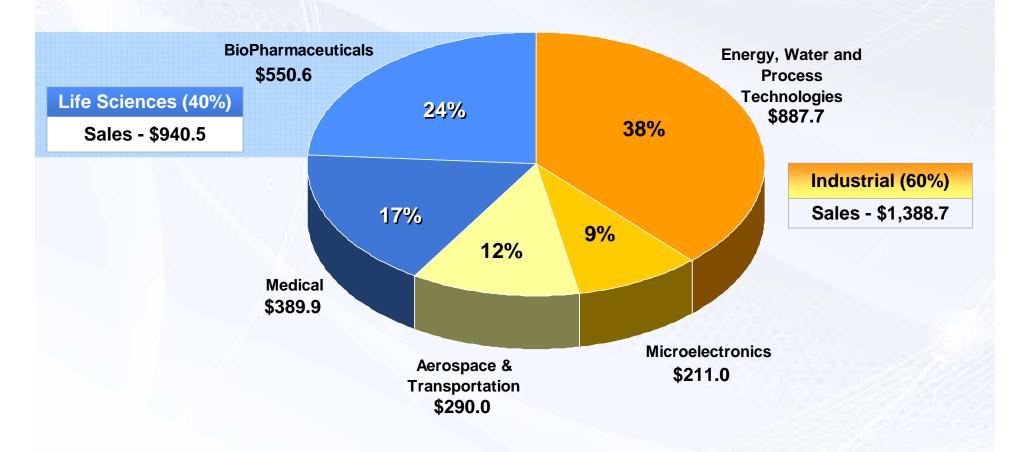
# **Total Fluid Management in Healthcare**



# **Life Sciences**

### FY 2009 Total Sales \$2,329.2

(amounts shown in millions)





## FY'13 Projected Market Size \$7.8 Billion

#### **Process**

FY'13 Market Size \$ 3.3 B



Market CAGR 5-12%

### Laboratory

FY'13 Market Size \$ 2.1 B



**Market CAGR 5%** 

### **Process Monitoring**

FY'13 Market Size \$ 1.9 B



**Market CAGR 8%** 

### **Diagnostics / PSM**

FY'13 Market Size \$0.5 B



**Market CAGR 10%** 



### FY'13 Projected Market Size \$7.8 Billion

#### **Process**

FY'13 Market Size \$ 3.3 B



**Market CAGR 5-12%** 

-20012 OW

FY13 Warket Size \$ 2.1 B



Process Moniforing

TV13
Narket Size



Market CAGR 8%

Diagnostics / PSM

TY13 Narket Size \$0.5 B



Market GAGR 10%



# BioPharm Process Market Overview – FY'13 Market Potential \$3.3 B

#### **Biotech**

FY'13 Market Size \$ 1,888 M



Market CAGR: 12%

Filtration/vent Chromatography TFF Virus Disposable PASS

Applications

#### **Vaccines**

FY'13 Market Size \$ 362 M



Market CAGR: 12%

Filtration/vent
Chromatography
TFF
Disposable
PASS
Lab

#### **Plasma**

FY'13 Market Size \$ 316 M



Market CAGR: 6%

Filtration/vent
Chromatography
TFF
Virus
Disposable
PASS
Lab

#### Form Fill

FY'13 Market Size \$ 340 M



Market CAGR: 5%

Filtration/vent Disposable Lab

#### API

FY'13 Market Size \$ 425 M



Market CAGR: 5%

Filtration Lab

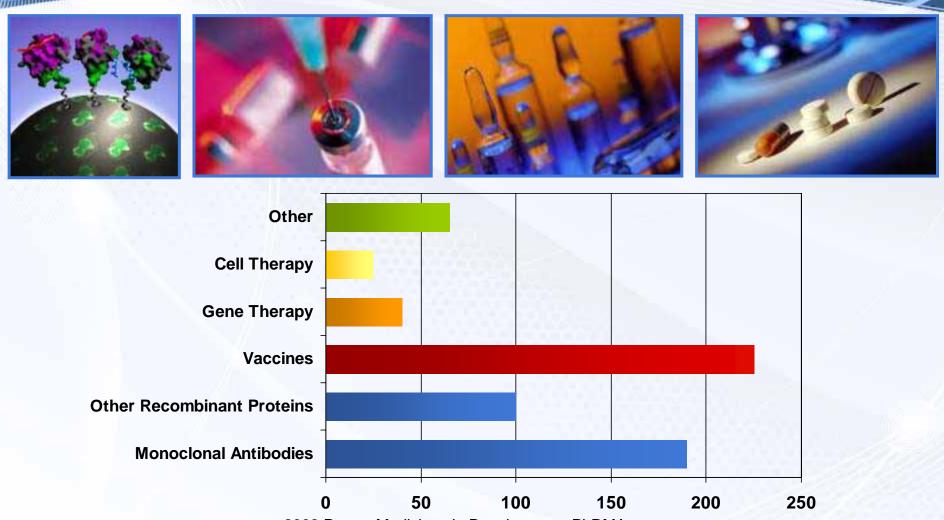


Lab

Notes: Total potential includes smaller markets not shown

Blue labeled markets are fastest growing and processes are most separation intensive

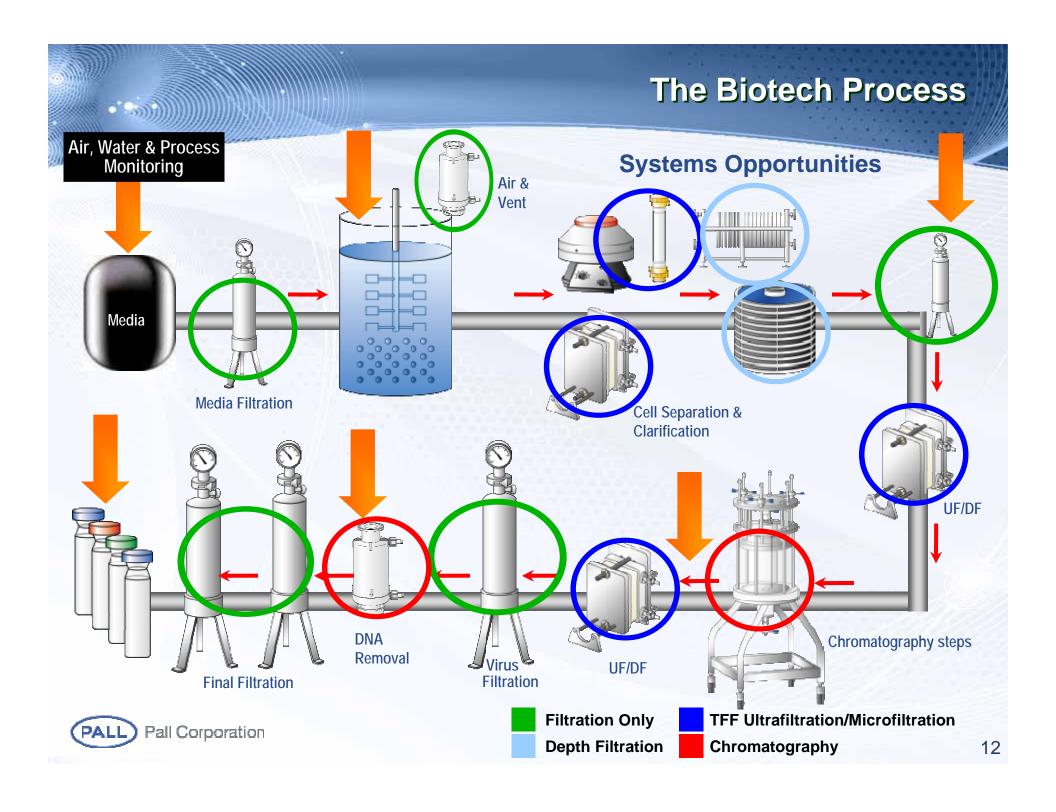
# **Biotech Drugs In Development**



2008 Report Medicines in Development, PhRMA

Note: Blue bars represent protein based drugs, which require separation intensive processes



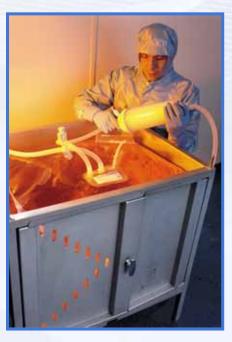


# Benefits of Single Use Technology in BioProcessing

- Eliminates the risk of cross contamination
- Eliminates cleaning and cleaning validation
- ▲ Faster implementation
  - Clinical trial materials
  - Allows greater flexibility in facility utilization
  - Time to market
- Minimizes utilities requirements







# Single Use Technology is Also Good for the Environment

- 90% reduction in water consumption
- ▲ 50% reduction in chemicals use
- 40% savings on energy consumption
- Reduced factory footprint









# Single Use Technology in Vaccine Production

- Single Use Technologies are key enablers in the development and rapid manufacturing expansion of H1N1 vaccine
  - Kleenpak<sup>TM</sup> sterile connectors
  - Presterilized filter assemblies
  - Transfer sets
  - Biocontainers for storage and processing
- Single Use Technologies now preferred wherever possible
  - Clinical trial materials
  - Upstream and Downstream Processing
  - Formulation and filling













# FY'13 Projected Market Size \$7.8 Billion

FY'13 Warket Size \$3.38



FY'13 Market Size \$2.4 B

Market CAGR 5%

**Process Monitoring** 

**FY'13 Market Size** \$1.9 B



**Market CAGR 8%** 

FY/13 Warket Size \$0.5 B



Market CAGR 10%



# **Expanded TFM with Process Monitoring**

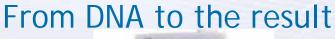
# GeneDisc® Extractor

From sample to DNA





# GeneDisc Cycler







### Positioned for Growth in BioPharmaceuticals

- Maintain leadership in key markets for filtration &TFF
- Addition of new technology platforms to enhance TFM reach
  - Single use systems,
     Chromatography, Process monitoring, Diagnostics
- Regional growth in Asia





### Asia

- Growth Drivers
- Rapidly developing prosperity in large populations
- Increased investment in healthcare
  - BioSimilars
  - Plasma derivatives
  - Big Pharma investment
  - Vaccines
- Pall Centers of Excellence established in key territories





#### **Process**

FY'13 Market Size \$ 3.3 B



**Market CAGR 5-12%** 

#### Laboratory

FY'13 Market Size \$ 2.1 B



**Market CAGR 5%** 

### **Process Monitoring**

FY'13 Market Size \$ 1.9 B



**Market CAGR 8%** 

### **Diagnostics / PSM**

FY'13 Market Size \$0.5 B



**Market CAGR 10%** 



