

BIOCHIPS & BIOMEMS—WORLD MARKETS, APPLICATIONS & OPPORTUNITIES: 2006-2011 ANALYSIS AND FORECASTS

PUBLISHED MAY 2006: BRAND NEW 2006-2011 REPORT!!

WITHIN THIS
REPORT YOU
WILL FIND...

ANALYSIS OF MARKET TRENDS

- What forces drive the bioMEMS industry?
- How will production capabilities affect future market demand?
- Product and Application Analyses
- Commercialization and Product Development
- Emerging Supply Chains
- Supplier/End-User Relationships
- Affects from Emerging Application Markets.

DATA USEFUL IN:

- Market sizing (\$MM) by product type: 2005-2011
- Assessing End-User Needs
- Analyzing the Competition
- Creating Forecast Models
- Developing Market Strategies

- Finding New Regional Markets
- Presentations to Sales & Marketing Teams

WORLDWIDE MARKET STATISTICS

- Global Demand (\$MM) by Country: 2005-2011
- Shifts in Market Dynamics
- Global Demand (\$MM) by Product Type
- Pricing by Product Type
- Global Demand (\$MM) by Application Market
- Purchasing Trends by Application
- Global Demand (\$MM) by End-User Industry
- Developing Markets: China, Asia, North America, Europe...

ANALYSIS OF ISSUES SURROUNDING MARKET ENTRY

- Product Development • Intellectual Property
- Licensing of Technology
- Manufacturing Constraints • Commercialization
- Supply Chain Development
- Workforce Development

END-USER ANALYSIS

- End-User Industry Growth, Trends and Analysis: healthcare/pharma, research, industrial...
- What end-users expect from new products
- Product Sophistication
- Technological Innovation

TECHNOLOGY AND PRODUCT DEVELOPMENT

- New Technologies Market Impact
- Standards and Specifications Development
- Product Introductions • Pricing by Product Type

WORLD COMPETITIVE ENVIRONMENT

- Market Share (\$MM) by Product Type
- Marketing Strategies
- Company Background • Corporate Families
- New Market Entrants • Patent Trends

FUTURE OUTLOOK

- Product Forecasts through 2011
- Impact on market growth and development
- Technological Advances • Advances in R&D
- High-growth Markets: 2006-2011

WHO SHOULD USE THIS REPORT:

- Manufacturers & End-Users
- Raw Materials Suppliers
- Investment Bankers • Venture Capitalists
- Distributors
- Manufacturer's Representatives
- Government Agencies
- Marketing & Sales Teams
- Internal Research Departments

SCOPE OF REPORT

PRODUCTS

BioChips

- Microarrays • Systems • Lab-on-a-chip

BioMEMS

- Biosensors
 - Flow Control – Temperature – Pressure
 - Electrochemical – Biomechanics
 - Molecule specific
- Drug Delivery Systems/Microneedles
- Microfluidic Devices
 - Valves – Pumps – Filters – Other
- Implants
 - Cardiovascular – Neural
 - Retinal/Ocular
- Silicon Structures
 - Multilayer Polysilicon Shapes
 - Pillars – Perforated forms
 - Spikes – Other
- Microactuators
 - Micromanipulators
 - Surgical Microinstruments

APPLICATIONS

- Aural • Biodefense • Bioelectrics
- Biomechanics • Bioremediation
- Cardiovascular • Diagnostics
- Drug Delivery • Endocrinology
- Environmental • General Medical

- Genetics/DNA Analysis
- Immunology • Industrial
- Molecular Medicine • Neurology
- Ocular/Ophthalmology • Oncology
- Pathology • Point-of-Care Diagnostics
- R&D: gene expression/genotyping
- Surgery • Tissue/Dermatology

END-USER INDUSTRIES

- Healthcare/Pharmaceutical
- Research • Military/Defense
- Environmental • Industrial • Other

GEOGRAPHIC SCOPE

- US, Canada, Mexico
- Germany, France, UK
- Rest of Europe
- Japan, China, Korea
- Rest Asia/Pacific
- Latin/South America
- Rest of World (Middle East, Africa)

ECONOMIC METRICS

- Real Consumption (\$MM)
- Potential Demand (\$MM)
- Growth Rate: CAGR (%)

TIME FRAME

- Base: 2005 • Forecasts: 2006-2011

SUMMARY OF REPORT CONTENTS

INTRODUCTION

- DCI Background • Methodology
- Scope of Report • Report Objectives
- Methodology & Sources • Statistical Notes

SECTION ONE: TECHNOLOGY OVERVIEW

Technology & Industry Definitions

BioMEMS Fabrication

- Nanomachining • VLSI
- Genetic Engineering and more...

BioMaterials

- Silicon • Polymers • C-MEMS • Fused Silica
- Other advanced synthetics • Hydrogels
- SU-8 • Nanomaterials

Raw Materials for Device/Packaging

- Silicon • Silicon oxide
- Nitride • Titanium Packaging
- Silicon oxide • Nitride • Other

BioMEMS and Nanotechnology

- Convergence, Impact & Opportunities
- Nanobiotechnology • Nanocoatings
- Nanomaterials • Nanoactuators
- Nanoelectrodes • Nano-optics

Obstacles to Technological Advancement

- MEMS packaging
- Biological compatibility
- Powering devices
- Device support structure
- Integration of technologies
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 - nanotechnology
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- Applications & Technology
- Healthcare • Government Support
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- Increased Understanding of bioMEMS Benefits
- Increased Reliability and Efficiency
- Lower costs per Chip
- Materials Cost Decreases
- Decreases in Device Production Cost
- Increased Chip Density
- Diagnostic Tools • Diagnostic Specificity

BIOCHIPS MARKET FOCUS

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TECHNOLOGY, PRODUCT INTRODUCTION, COMMERCIALIZATION, AND COMPETITION

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- Conceptualization
- R&D/Intellectual Property
 - Patents Issued
 - Licensing of Rights
 - Royalty Revenues as a Source of Startup Capital
- Design/Prototyping
- Packaging
- Testing
- Securing Regulatory Approval
 - Regulatory Example: FDA Approval of Home

Use Diagnostic Devices

- Training a Workforce
- Commercialization of Products

Manufacturing Relationships

- Foundries and Producers
- Small Labs and Industry
- Niche Players

Analysis of Issues Surrounding Market Entry

- Approach to Analyzing the Market
- Barriers to Market Development
- Limitations of Current Production Techniques
- Mass Scale Production
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- Customer/End-User Understanding

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- MEMS • Biotechnology
- IC/Semiconductor • Nanotechnology

Competitive Environment

- Player Market Shares (\$MM): 2005-2006
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- Academic/Research Institutions
- Raw Materials Suppliers
- Design/Software Companies
- Prototyping
- Fabricators/Foundries
- Systems Manufacturers
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