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REPORT OVERVIEW



Lab Budgets and Sources of Funding in 2014: The Market Outlook for the United States, Europe and Asia

DECEMBER 2013



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■ STUDY SCOPE

The overarching objective of this study was to assess sources of funding, the competitive landscape and market opportunities in the United States, Europe and Asia for life science tools companies. From the perspective of academic and industrial labs, our goals were to:

- 1. Understand current sources of funding from government, industry, private foundation grants, institutional funds, etc., their relative contribution to laboratory funding, and frequency of grant submission.
- 2. Compare and contrast FY2013 (actual), and FY2014 (projected) average lab budgets in total by broad product category, region, and market segment thus providing directional information for FY2014.
- 3. Estimate scientists' budget for purchases and anticipated purchases in instrumentation and consumables, examining trends across key product categories.
- 4. Assess how optimistic scientists are regarding funding and the future of life science research.

The assessment is based upon an extensive review of secondary research sources to better understand the scope of funding for the life sciences in the United States and Europe, in addition to a primary research component involving a quantitative survey of life scientists working in the United States, Europe and Asia.





Secondary Research

Sources of Life Science Funding in the United States

Overview

- Forecast Gross Expenditures on R&D for the Top Eight Countries in 2012, 2013 and 2014
- Major Funding Sources of 2014 U.S. Life Science R&D

Private Industry

- Domestic R&D Spend by PhRMA Member Companies 2001 to 2012 (in millions)
- Biotech Industry: Quarterly VC Investment (Q1 1995 through Q2 2013)

U.S. Federal Government

- National Institutes of Health Budget, 1998-2014
- Allocation of the NIH FY2014 Budget
- Success Rates (Excluding ARRA) for NIH Funding, 1995-2012
- NIH Research Priorities for FY2014
- Requested FY2014 Budget Allocation for the NSF Directorate for Biological Sciences (BIO)



■ Report highlights (continued)

Academia and Other Sources

- Higher Education R&D Expenditures by Source of Funds: FY2010-FY2011
- Higher Education R&D Expenditures by Source of Funds and R&D Field FY2011
- Selected Examples of Non-Profit Investment in Life Science R&D: GEN Top 20 Grant Giving Disease Foundations

Summary and Outlook

Sources of Life Science Funding in Europe

Private Industry

- R&D Spend of European Pharmaceutical Companies and Percent R&D Spent at the Preclinical Phase
- Number of Public European Biotech Companies and Amount Financed per Year
- R&D Spend of European Biotech Companies
- Drug Candidate Pipeline by Country, 2012

Public Funding

- Life Science Research Funding from the European Union
- European Union 8th Framework Program for Research and Innovation
- Horizon 2020 Funding Budget Breakdown in Current Euros



■ Report highlights (continued)

- FP7 and Horizon 2020 Life Science Research Funding Levels
- Public Life Science Research Funding in Germany
- German Research Funding Process for Life Sciences
- Public Life Science Research Funding Levels in Germany
- Public Life Science Research Funding in France
- French Research Funding Process for Life Sciences
- Public Life Science Research Funding Levels in France
- Public Life Science Research Funding in the United Kingdom
- The United Kingdom's Research Funding Process for Life Sciences
- Public Life Science Research Funding Levels in the United Kingdom

Primary Research (United States, Europe and Asia)

Laboratory Budgets

- Average Annual Research Budget by Market Segment for FY2012 to FY2014 (in USD)
- Annual Research Budgets (in USD)—Academic
- Annual Research Budgets (in USD)—Industrial



■ Report highlights (continued)

- Range of Best Case and Worse Case Annual Research Budgets for FY2014 by Market Segment
- Percent of FY2013 and FY2014 Research Budgets for Product Categories by Market Segment
- FY2013 Lab Size and Expected Change in Lab Size in FY2014 by Market Segment
- Average Annual Research Budget per FTE by Market Segment for FY2013 and FY2014
- Reasons Lab Size is Expected to Increase in FY2014 by Market Segment
- Reasons Lab Size is Expected to Decrease in FY2014 by Market Segment
- Percent of FY2013 and FY2014 Instrumentation Budgets for Specific Categories by Market Segment
- Percent of FY2013 and FY2014 Consumables Budgets for Specific Categories by Market
 Segment

Laboratory Tools and Techniques

- Current Use of Cell-Based Techniques by Market Segment
- Expected Change in Usage of Cell-Based Techniques
- Expected Usage of Cell-Based Techniques in FY2014—Academic
- Expected Usage of Cell-Based Techniques in FY2014—Industrial
- Planned FY2014 Cell-Based Analysis Equipment/Instrumentation Purchases by Market Segment



■ Report highlights (continued)

- Current Use of Genome-Based Techniques by Market Segment
- Expected Change in Usage of Genome-Based Techniques
- Expected Usage of Genome-Based Techniques in FY2014—Academic
- Expected Usage of Genome-Based Techniques in FY2014—Industrial
- Planned FY2014 Genome-Based Analysis Equipment/Instrumentation Purchases by Market Segment
- Current Use of Protein-Based Techniques by Market Segment
- Expected Change in Usage of Protein-Based Techniques
- Expected Usage of Protein-Based Techniques in FY2014—Academic
- Expected Usage of Protein-Based Techniques in FY2014—Industrial
- Planned FY2014 Protein-Based Analysis Equipment/Instrumentation Purchases by Market Segment

Sources of Funding

- Sources of Support for FY2013 Research Budgets by Market Segment
- Sources of Support for FY2014 Research Budgets by Market Segment
- Allocation of Funding by Support Sources for FY2013 and FY2014 Research Budgets by Market Segment



■ Report highlights (continued)

Grants

- Number of Grant Applications per Fiscal Year by Market Segment
- Number of Different Grants Currently Supporting the Lab by Market Segment
- Average Value Associated with Each Grant by Market Segment (in USD)

Customer Sentiment

■ Customer Sentiment Regarding Life Science Research Funding by Market Segment

Region-Specific Demographics

- Level of Knowledge of Lab's Budget by Market Segment
- Respondents' Fiscal Year End by Market Segment
- Organization Type by Market Segment
- Job Position by Market Segment



OVERVIEW

Life science research is weathering an economically challenging time, exacerbated by the federal budget sequestration in the United States and by continued austerity in Europe. Grant money from all sources—both public and private—is increasingly difficult to obtain, and pharmaceutical spending on R&D has flattened following years of solid gains. Add to this mix a decreased level of reimbursement for molecular diagnostic testing and a slow recovery from the "Great Recession" to establish the external macro economic environment that has led to a new normal that is defined by increasingly constrained budgets.

By contrast, developing nations in Asia—China in particular—are making significant investments in higher education, with a focus on science and technology, including biotechnology. In addition, many global pharmaceutical and biopharmaceutical firms are establishing research centers in these countries, taking advantage of lower cost structures and the new availability of a well-trained work force. In this complex macroeconomic environment, life science suppliers are seeking guidance as to how to anticipate and manage market trends in the United States, Europe and Asia.



■ OVERVIEW (continued)

Lab Budgets and Sources of Funding in 2014: The Market Outlook for the United States, Europe and Asia explores projected 2014 lab budgets by region and the implications of these findings for the life science tools market in the coming year. This report provides an in-depth exploration of anticipated lab spend for the year 2014. This primary and secondary research report will enable suppliers to forecast demand, allocate resources and respond appropriately to the economies of a global market.

Secondary Research

We conducted extensive secondary research to gather available facts and information from relevant research councils, funding agencies and private funding sources in the United States and Europe to determine sources of funding for scientific research.



■ OVERVIEW (continued)

Primary Research

The survey was administered to life scientists who have budget authority and was designed to:

- Detail current sources of funding
- Estimate average lab budgets (2013 and 2014)
- Determine lab budget allocation for instrumentation, consumables, overhead and services
- Identify current usage of key techniques
- Explore technique usage over the next 12 months
- Identify key economic factors that are influencing lab operations
- Gage the sentiments of life scientists regarding funding over the next 12
 months
- Assess likelihood to purchase new instrumentation over the next 12 months
- Detail expected laboratory headcount over the next 12 months
- Identify new and emerging technologies



■ OVERVIEW (continued)

Product Categories

Expected purchases in the following broad product categories will be covered in the report:

Instrumentation

- Instrumentation for cell-based analysis (flow cytometers, high content analyzers, all microscopes, high-throughput screening and analysis systems, etc.)
- Instrumentation for genome analysis (thermal cyclers, real-time PCR instrumentation, microarray instrumentation, NGS, capillary electrophoresis, etc.)
- Instrumentation for protein analysis (chromatography, electrophoresis, mass spectrometry, label-free detection, calorimetry, NMR, CD, etc.)
- General lab equipment (water purification systems, incubators, freezers, centrifuges, etc.)



■ OVERVIEW (continued)

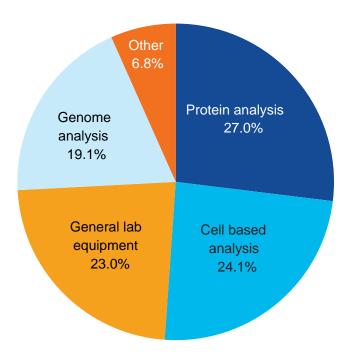
Consumables

- Kits and reagents for cell-based analysis (cell culture media and reagents, antibodies, cell biology kits, etc.)
- Kits and reagents for genome analysis (enzymes, kits, ladders, nucleic acid purification and separation products, oligonucleotides [primers, RNAi], etc.)
- Kits and reagents for protein purification and separation (chromatography media, electrophoresis matrices, protein ladders, etc.)
- General laboratory chemicals, plasticware, glassware and disposables

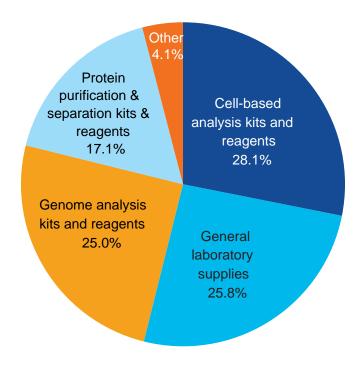




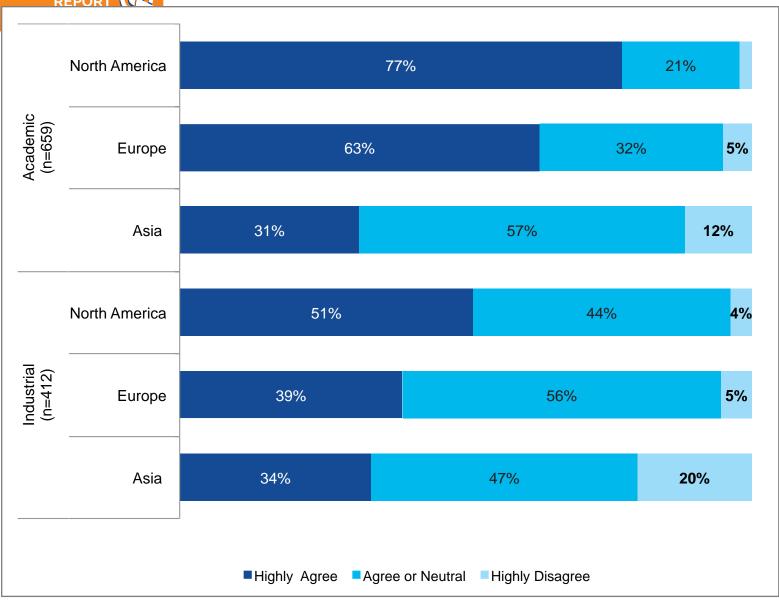
EXPECTED FY2014 INSTRUMENTATION BUDGET ALLOCATION BY PRODUCT CATEGORY



EXPECTED FY2014 CONSUMABLES BUDGET ALLOCATION BY PRODUCT CATEGORY







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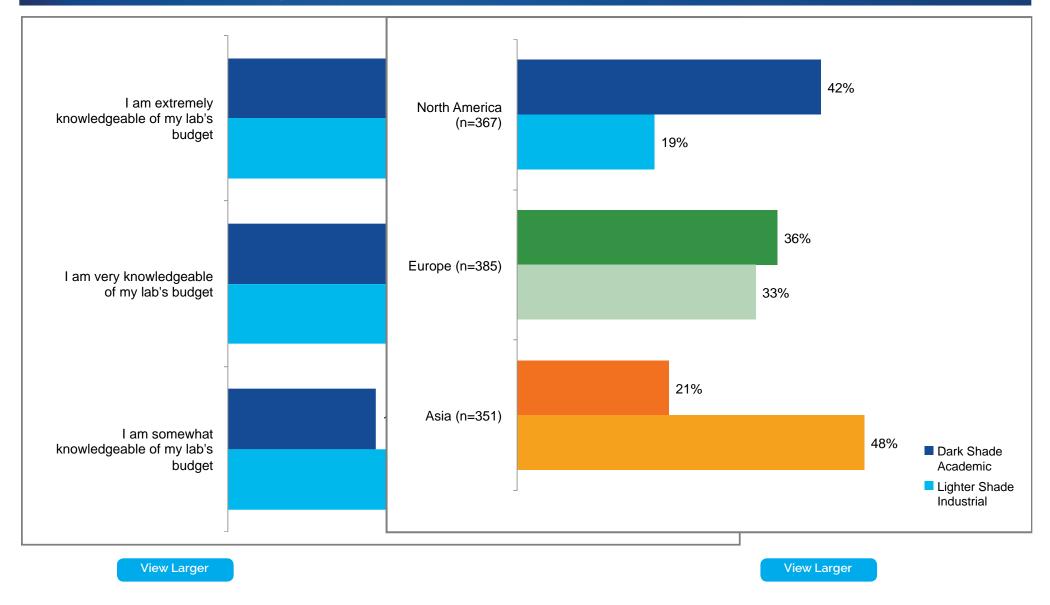
■ METHODOLOGY - PRIMARY RESEARCH

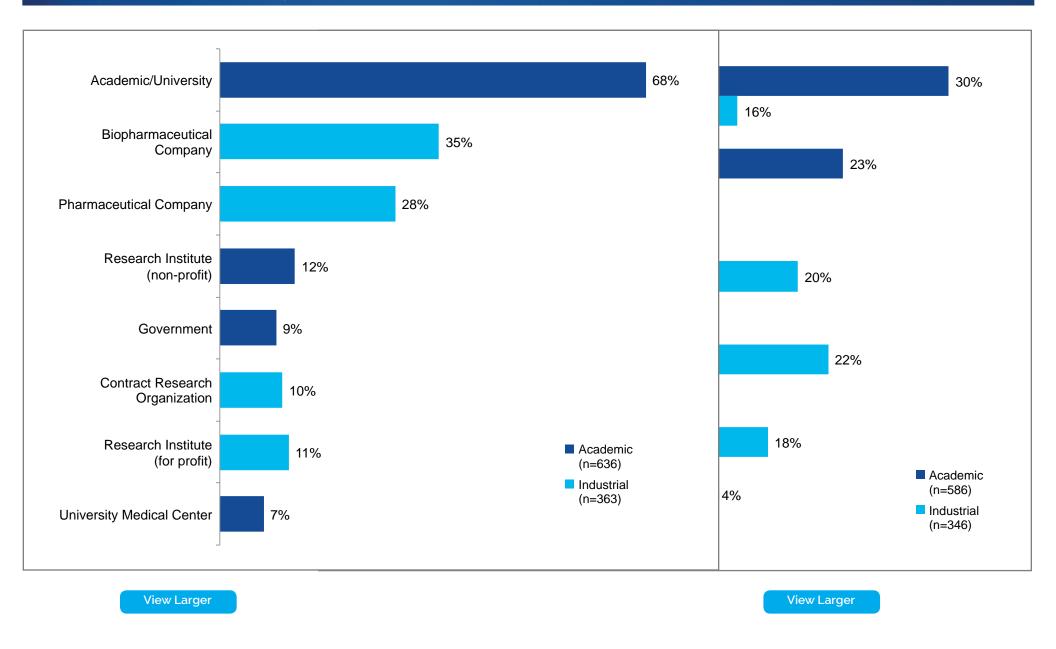
This report, Lab Budgets and Sources of Funding in 2014: The Market Outlook for the United States, Europe and Asia, is based on responses to a 46-question online survey conducted by BioInformatics LLC (Arlington, Virginia, USA).

1,103 scientists from the United States, Europe and Asia met the qualification requirements of the study and participated in this survey between November 21 and December 3, 2013.

All quantitative survey data presented in this report has been weighted by market segment (Academia & Government versus Industry) to more accurately represent the population of life scientists in each region as compared to the sample collected for this study. Weighted study demographics are presented.

		Original Share of Respondents	Revised Share of Respondents	Weight
United States	Academic	77%	77%	0.9950
	Industrial	23%	23%	1.0170
Europe	Academic	80%	63%	0.7901
	Industrial	20%	37%	1.8263
Asia	Academic	83%	40%	0.4808
	Industrial	17%	60%	3.5695







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ABOUT BIOINFORMATICS LLC

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