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

Multi-Sponsor Research Prospectus 13-008
Prepared for Life Science Manufacturers and Suppliers

December 2013

BIOINFORMATICS
Life Science Industry Market Research

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Goals & Objectives

The Situation

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, to include 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. Our 2013 studies suggest that average laboratory budgets in Asia are larger than those in the United States and Europe. In this complex macroeconomic environment, life science suppliers are seeking guidance as to how to anticipate market trends in the United States, Europe and Asia in the coming year.

Lab Budgets and Sources of Funding in 2014: The Market Outlook for the United States, Europe and Asia will explore projected 2014 lab budgets by region and the implications of these findings for the life science tools market in the coming year. In this Q4 multi-sponsor report, we will provide an in-depth exploration of anticipated lab spend for the year 2014. This primary and secondary research will enable suppliers to forecast demand, allocate resources and respond appropriately to the economies of a global market.

By leveraging a coalition of participating life science suppliers (Sponsors), this assignment will provide market data in aggregate as well as by region. The primary objective of this engagement will be for BioInformatics, LLC to provide Sponsors with sources of funding, current spending and projected allocation of 2014 lab budgets in the United States and Europe. Additionally, current spending and projected allocation of 2014 lab budgets will be presented for Asia.

In order for BioInformatics, LLC to commence with the publication of this report, a minimum of six (6) Sponsors must commission this study.

OBJECTIVES OF THIS STUDY

The objective of this study is to assess sources of funding, the competitive landscape and market opportunities for life science tools companies. From the perspective of end-users, the goals of this assignment will be to:

1. Understand current sources of funding from government/ stimulus/private foundation grants, distribution time frame and how labs initiate applications for funding.

2. Compare and contrast FY2013 (actual), and FY2014 (projected) average lab budgets in total by broad product category, region and market segment; 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.

Advantages of Multi-Sponsor Research

Considerations	BioInformatics, LLC Advantages
Start-Up Time	BioInformatics, LLC has a multidisciplinary team of scientists, industry veterans and market research experts who will begin work upon receipt of your Sponsorship Agreement.
Expertise	BioInformatics, LLC has unmatched expertise in the life science market and has delivered market studies to more than 500 unique firms.
Objectivity	BioInformatics, LLC multi-sponsor research projects are unbiased and provide a fresh perspective on your strategies.
Efficiency	There is no need for pre-publication sponsors to disrupt their routine activities. BioInformatics, LLC will perform all aspects of the research and deliver the final report within the required timeframe.
Cost Control	To commission a custom study of similar scale and scope would cost approximately $80,000 to $100,000 USD.

Description of Work to be Performed:

BioInformatics will conduct extensive primary and secondary research to meet the objectives of this study.

SECONDARY RESEARCH

We will conduct an extensive review of relevant research councils, funding agencies and private funding sources in the United States and Europe to determine sources of funding for scientific research. The result of this secondary research will be summarized and included in the analysis section of the Final Report.

PRIMARY RESEARCH

We will develop a questionnaire that will be administered to life scientists in the United States, Europe and Asia who have budget authority. This focus of this end-user survey is to provide the following types of information:

- Current sources of funding
- Average lab budgets (2013 and 2014)
- Average lab budgets for instrumentation
- Average lab budgets for consumables
- Percent budget allocation for overhead and salaries Current usage of key techniques
- Explore technique usage over the next 12 months
- Purchases of instrumentation (actual in 2013 and expected in 2014)
- 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
- Take the pulse of the life science community regarding funding and the future of life science research

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Research Methodology

REGIONS/SEGMENTS:

United States

Data collection in Europe will be targeted at (but not limited to) the following countries/regions:

Germany
UK
France
Italy
Spain
Switzerland
Scandinavia (Denmark, Sweden, Norway, Finland, Iceland)

To the degree we have a significant number of respondents from a specific country, we will report on those countries individually as well as in the aggregate.

Data collection in Asia will be targeted at (but not limited to) the following countries/regions:

China
India
South Korea
Singapore
Japan

To the degree we have a significant number of respondents from a specific country, we will report on those countries individually as well as in the aggregate.

BioInformatics, LLC will make best efforts to include 75% Academic/Government and 25% Life Science Industry (primarily pharma/biotech, but also including agricultural biotechnology, diagnostics/device manufacturers and CROs).

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.)

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.

Research Methodology

SCIENTIFIC TECHNIQUES

Current participation and projected increase and/or decrease in each of the following scientific techniques will be included:

CELL-BASED TECHNIQUES

- ❑ Bacteria Culture
- ❑ Cell-Based Assays
- ❑ Conofocal Microscopy
- ❑ Eukaryotic Cell/Tissue Culture
- ❑ Flow Cytometry
- ❑ Fluorescent Microscopy
- ❑ Gene Expression Analysis
- ❑ High Content Screening
- ❑ High-Throughput Screening (HTS)
- ❑ Immunohistochemistry
- ❑ Light Microscopy
- ❑ Stem Cell Culture/Analysis

GENOMICS/GENETICS TECHNIQUES

- ❑ Classical End-Point PCR
- ❑ Cloning/Molecular Biology Techniques
- ❑ DNA/RNA Microarrays
- ❑ Genotyping
- ❑ Next Generation Sequencing
- ❑ Real-Time PCR (including qPCR and RT-PCR)
- ❑ RNAi (including siRNA, miRNA)
- ❑ Sanger DNA Sequencing
- ❑ Single Nucleotide Polymorphism (including genotyping, discovery, validation)

PROTEIN TECHNIQUES

- ❑ 2-D Gel Electrophoresis
- ❑ Calorimetry (including ITC, DSC)
- ❑ Enzyme-linked Immunosorbent Assay (ELISA)
- ❑ Label-Free Detection/Analysis (Including Biosensors, SPR, etc.)
- ❑ Light Scattering (MALS, DLS)
- ❑ Mass Spectrometry
- ❑ Multiplex Bead Assays
- ❑ Protein Purification & Separation
- ❑ Protein Structure Analysis (NMR, CD, etc.)
- ❑ Western Blotting

Analysis & Reporting

BioInformatics, LLC will deliver an in-depth analysis of the study's significant findings and their implications for your 2014 marketing strategy. A hard copy and an electronic version (PDF) of the final report will be provided to each sponsor. The final report will consist of the following sections:

SECTION 1:
Overview and Regional Comparisons

- Analysis of Laboratory Budgets and Projected Spending
- Projected Allocation of Budget by Product Category
- Customer Expectations

SECTION 2:
Market Analysis and Funding Situation for the United States

- Overview of Funding Sources
- Analysis of Laboratory Budgets and Projected Spending
- Projected Allocation of Budget by Product Category
- Customer Expectations

SECTION 3:
Market Analysis and Funding Situation for Europe

- Overview of Funding Sources by Region (and Country, where applicable)
- Analysis of Laboratory Budgets and Projected Spending by Region (and Country, where applicable)
- Projected Allocation of Budget by Product Category by Region (and Country, where applicable)
- Customer Expectations by Region (and Country, where applicable)

SECTION 4:
Market Analysis for Asia

- Analysis of Laboratory Budgets and Projected Spending by Region (and Country, where applicable)
- Projected Allocation of Budget by Product Category by Region (and Country, where applicable)
- Customer Expectations by Region (and Country, where applicable)

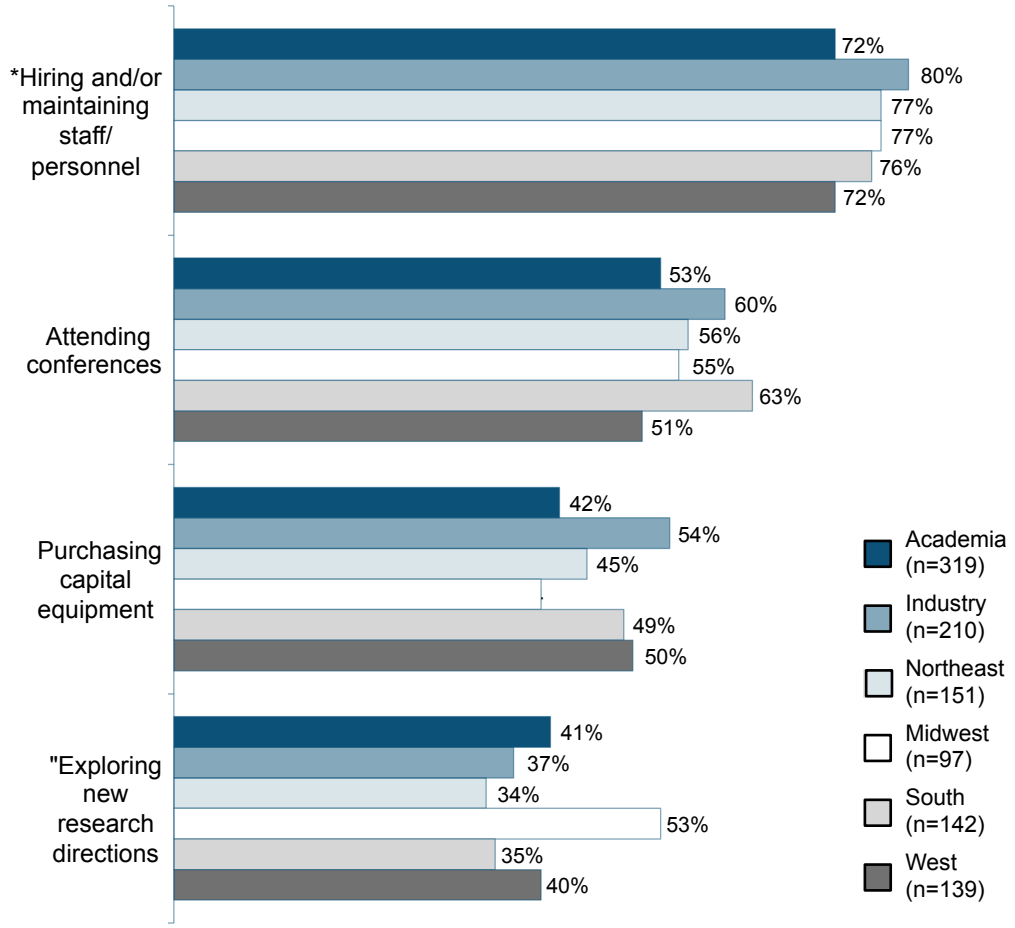
SECTION 5:
Study Methodology and Demographics

SECTION 6:
Verbatim Comments from Survey Respondents

Sample Data

Annual Research Budget by Market Segment for 2010 - 2012					
	FY2010	FY2011	FY2012	% Change FY2011 over FY2010	% Change FY2012 over FY2011
Academia and Government (n=709)	$559,285	$569,005	$605,703	1.7%	6.4%
Industry (n=276)	$1,313,380	$1,376,360	$1,480,737	4.8%	7.6%
Total Respondents (n=985)	$770,432	$795,064	$850,713	3.2%	7.0%

Top Four Lab Areas Most Affected by Current Economic Climate



Annual Research Budget by Target Countries for 2010 - 2012					
	FY2010	FY2011	FY2012	% Change FY2011 over FY2010	% Change FY2012 over FY2011
United Kingdom (n=226)	$762,949	$769,885	$860,250	0.9%	11.7%
Germany (n=186)	$783,880	$853,378	$887,008	8.9%	3.9%
Italy (n=103)	$580,677	$568,611	$608,263	-2.1%	7.0%
Spain (n=71)	$973,780	$998,599	$1,057,161	2.5%	5.9%
France (n=65)	$912,434	$973,997	$1,065,974	6.7%	9.4%
Switzerland (n=30)	$845,082	$850,662	$860,134	0.7%	1.1%
Other (n=305)	$747,060	$763,915	$808,776	2.3%	5.9%
Total Respondents (n=985)	$770,432	$795,064	$850,713	3.2%	7.0%

Sources of Budget Funding							
FY2010	United Kingdom (n=118)	Germany (n=91)	Italy (n=68)	Spain (n=40)	France (n=32)	Switzerland (n=19*)	Other (n=180)
External sources	83.5%	68.5%	77.2%	86.7%	79.6%	81.5%	79.3%
Country-specific government contract(s)	7.1%	10.1%	12.9%	8.5%	17.4%	11.3%	13.1%
Country-specific government grant(s)	32.8%	28.2%	28.5%	46.2%	28.4%	32.0%	35.6%
Regional grants and/or contracts	6.4%	7.1%	11.8%	12.7%	11.8%	11.5%	7.1%
European Union funding	6.8%	7.1%	9.0%	10.2%	6.7%	9.7%	11.4%
Funding from a consortium/alliance	2.0%	3.4%	3.1%	1.8%	2.2%	7.2%	3.2%
Grant(s) from private foundations and other sources	25.5%	11.4%	10.7%	5.8%	12.9%	9.8%	7.9%
Licensing/royalties	0.2%	0.8%	0.8%	0.3%	0.2%	0.0%	0.2%
Venture capital fund(s)	0.3%	0.4%	0.4%	1.0%	0.0%	0.0%	0.3%
Other external source	2.4%	0.0%	0.0%	0.2%	0.0%	0.0%	0.5%
Internal sources	16.4%	31.6%	22.9%	13.2%	20.3%	18.5%	20.7%
Institutional fund(s)	5.4%	12.4%	12.7%	9.4%	12.6%	10.2%	9.5%
Departmental fund(s)	9.3%	19.2%	9.7%	3.2%	7.7%	8.3%	11.1%
Other internal source	1.7%	0.0%	0.5%	0.6%	0.0%	0.0%	0.1%

Budget & Timing

These fees are calculated based on the nature and the scope of the project, the level of detail, the objectives and the relative difficulty of obtaining the information. The delivery of the final report, will mark the end of this assignment.

Task	Timing
Due date for signed agreement	October 18, 2013
Email report delivered as a PDF	December 16, 2013
Total	$15,000 USD per sponsor

GENERAL TERMS

In order to successfully undertake this engagement, we understand that we will be exposed to highly confidential and proprietary information about your company. Therefore, BioInformatics promises not to disclose, reveal or share any confidential or proprietary information about your company that we learn during the duration of this engagement and for three years thereafter. Confidential and proprietary information covered by this agreement includes, but is not limited to, information relating to your personnel, operations, methodologies, products, pricing, strategies, financing and customers. Every BioInformatics employee and analyst is required to sign a strict confidentiality agreement and copies of these agreements will be made available to you.

BioInformatics' corporate policy is only to report survey responses in aggregate and not to release the names and personal contact information of the survey sponsors that we recruit.

BioInformatics is unable to guarantee the participation of any specific individual and will seek to obtain the participation/ opinions of specific individuals on a "best efforts" basis only.

BioInformatics also pledges to uphold the highest of ethical standards. BioInformatics will pursue research engagements with zeal and diligence while avoiding all unethical practices.

BioInformatics will neither seek, nor provide, competitor trade secrets (as defined by law).

PAYMENT TERMS

For this engagement, BioInformatics, LLC billing procedures are as follows:

- 50% of the total engagement cost is due upon receipt of your signed Authorization Letter.
- Balance due upon receipt of the final authorized task.
- The delivery dates and fees contained in this prospectus will remain in effect until October 11, 2013.
- A minimum of six (6) companies must participate or BioInformatics, LLC reserves the right to cancel the project. If the project is canceled by BioInformatics, LLC, sponsor fees will be refunded.

QUESTIONS/COMMENTS

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Targeted Genetics
Tecan
TEF LABS
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Thermo Fisher Scientific
Thomas Scientific
TissueInformatics
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Pharmaceuticals

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Publishers & Associations

Academic Press
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Nature Publishing Group

Authorization Letter

Project No.: 13-008
Please remit to:
BioInformatics, LLC
2111 Wilson Boulevard
Suite 250
Arlington, VA 22201
703.778.3080 phone
703.778.3081 fax

Purchase Order Number: _____

Please sign, date and complete the Accounts Payable details and REMIT TO: accounting@gene2drug.com, or 703.778.3081 (fax)

□ Yes, my company wishes to participate as a pre-publication sponsor of BioInformatics' study: ***Lab Budgets and Sources of Funding in 2014: The Market Outlook for the United States, Europe and Asia***

I understand that the budget for this project is $15,000 including expenses, for delivery of the final report on December 16, 2013.

A non-refundable payment of $7,500 is due from each Sponsor before the start of the project. The balance of $7,500 is due upon delivery of the final report.

Payment method for initial deposit: (please select one option)

□ **Charge my credit card**

Type: _____

Number: _____

Name on card: _____ (American Express, MasterCard, Visa)

Expiration Date (MM/YY): _____

□ **Bank wire/ACH payment (if selected, we will send our bank details)**

□ **Invoice me referencing Purchase Order #:** _____

Authorized by: _____

Signature _____ Date _____

Billing Address _____

Street Address _____

City, State/Province, Postal Code _____

Country _____

BioInformatics' Federal Tax Identification Number is 54-2001907.