

REPORT OVERVIEW



SUPPORTING THE PIPELINE

THE MARKET FOR INSTRUMENTATION IN DRUG DISCOVERY (2017-2022)

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Strategic Directions International

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Overview

The discovery and development of new drug candidates is a costly and lengthy process, with average costs ranging from \$900 million to \$1.9 billion USD. Typical development time is in the range of 10-15 years. With such significant R&D investment required, organizations involved in drug discovery rely on multidisciplinary talent and a diverse array of instrumentation to more efficiently elucidate disease targets, screen compounds and biological molecules, and determine the pharmacological properties of these candidates before proceeding to clinical testing.

Before a potential drug can be tested on humans in clinical trials, the drug development process involves activities that can be separated into two broad phases: early drug discovery, and preclinical research. Instruments used in drug development typically have multiple uses throughout the development process. This market is projected to grow at an annual rate of 6.4% over the next five years, and is expected to reach **\$6.6 billion in 2022**.

Objectives of a Market Analysis & Perspective Publication

- 1. Provide a technology overview of each analytical technology covered in this report, including how it is used in drug discovery.
- **2.** Provide detailed market data and commentary for **9 technologies** commonly used in drug discovery and preclinical research activities. This includes segmentation and 5-year growth by product type, region, and end market. Also included are estimates of unit sales for **2017-2022** and a list of recent business activities related to each technology.
- **3.** Provide a thorough analysis of an end user perspectives from respondents engaged in drug discovery activities from North America, Europe, and Asia. Topics explored include instrument usage, vendor usage, industry and regional segmentation, types of activities and assays performed, outsourcing, and budget outlooks.



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Report Contents

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- Executive Summary
- Scope & Definitions
- Methodology
- Technology Overview

MARKET DEMAND

- Overall (2017-2022)
- Chromatography
 - Analyticl HPLC
 - Gas Chromatography
 - Preparative HPLC
 - LPLC
- Sequencing
 - Large Scale NGS
 - Personal NGS
 - Sanger/CE-based
- Liquid Handling
 - Automated Liquid Handling
 - Pipettes
 - Auxiliary Equipment

- Mass Spectrometry
 - Quadrupole LC/MS
 - GC/MS
 - FT/MS & Ion Trap LC/MS
 - Time-of-flight LC/MS
 - MALDI-TOF
- Microplate Readers
 - Multi-Mode
 - Single-Detection
 - Microplate Washers
 - HTS Reader
- Flow Cytometry
 - Analyzers
 - Sorters
 - Company FC
- In vivo Animal Imaging
 - MicroCT
 - MicroPET/SPECT
 - MicroMRI
 - Optical
 - Ultrasound
 - MPI

- NMR
 - High Field NMR
 - Time Domain NMR
 - Low Field Spectroscopy NMR
- High Content Screening
 - CCD-based HCS
 - Laser Scanning Cytometer
 - Confocal-based HCS
- Capillary Electrophoresis
 - Benchtop CE
 - Microfluidics-Based
 - clEF

END USER PERSPECTIVES

- Demographics
- Applications
- Early Drug Discovery
- Preclinical Research
- Assays
- Technology & Supplier Usage
 - HPLC
 - Sequencing



- Liquid Handling
- Mass Spectrometry
- Microplate Readers
- High Content Screening
- Cell Sorters
- NMR
- Capillary Electrophoresis
- Supplier Satisfaction Ratings
- Lab Budgets

APPENDIX

- End User Questionnaire
- Recent & Upcoming Reports



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Methodologies

SDi provides detailed information on the recent commercial events within the region, market demand, growth, and vendor share for **9 different analytical instrument technologies** and techniques commonly used in drug discovery. Primary research is based on responses of a **47-question online survey of 246 scientists scientists directly involved with drug discovery instrument usage and/or product purchasing**, which provides substantive information on customer trends and opinions in the market.

The respondents meeting the survey qualification criteria in North America, Europe, and Asia participated in this survey between October 15, 2018 and October 30, 2018. The questionnaire was designed to take a maximum of 20 minutes to complete, and consisted of both closed, partially close-ended, and open-ended questions. The questionnaire has been provided at the end of the report.

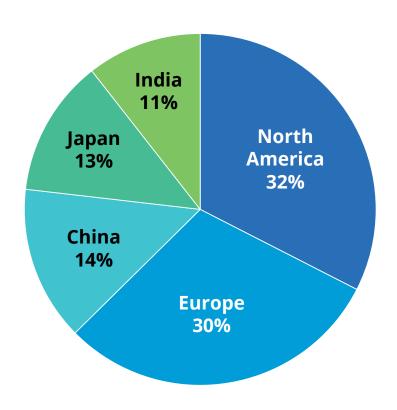
Secondary research sources in conjunction with primary research were utilized for market sizing, segmentation, and forecasting tables. Secondary sources include company financial statements, publications by industry observers and market participants, general and industry publications, and other internet information. Primary research includes survey data, knowledgeable personnel of participating suppliers, and other informed observers.



Sample Data

DEMOGRAPHICS

Distribution by Region (N=246)



Hospital/Clinic 2% CRO 8% Academia 12% Biotechnology 40% Pharmaceuticals 38%



Initial Systems:

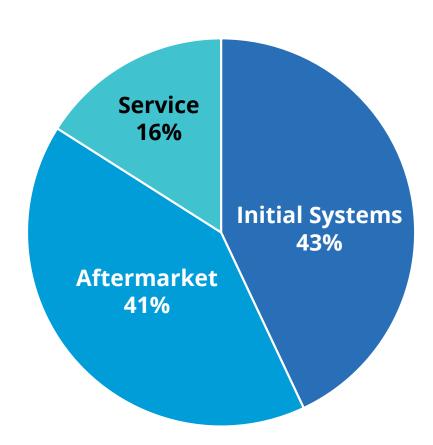
- Chromatography
- Sequencing
- Liquid Handling
- Mass Spectrometry
- Microplate Readers
- Flow Cytometry
- In vivo Animal Imaging
- NMR
- High Content Screening
- Capillary Electrophoresis

Aftermarket:

- Components
- Consumables

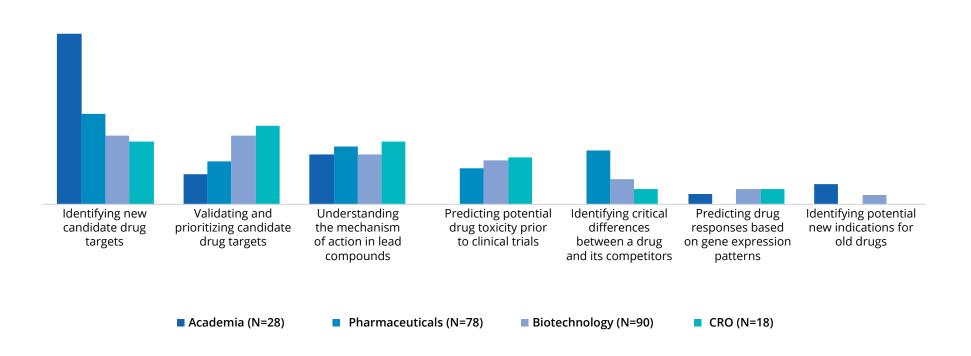
*This report includes market demand values through 2022

2017* Overall Demand by Product Type



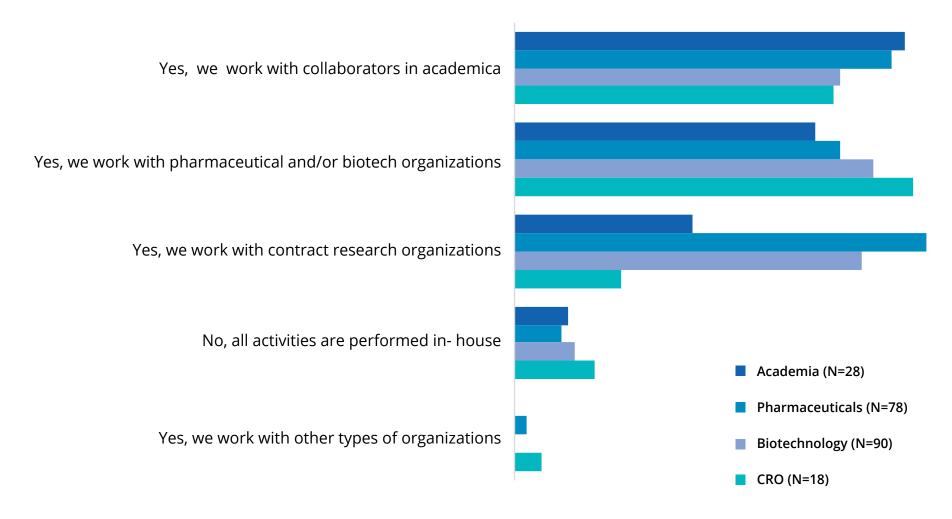


Reported Drug Discovery Objectives by Industry





Collaboration with Outside Organizations by Industry





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The library of market knowledge and data that SDi has cultivated over the years has been researched by senior consultants and a team of expert scientific market researchers who actively update and cross-check information through both primary and secondary sources.

Each year we also develop publications that focus on the market for a particular technology segment, geographical region, industry, or application. These reports rely heavily on secondary sources and provide the reader with valuable market figures and representations, including segmented market demand, unit sales, five-year growth forecast, competitive situation, and other relevant insights or summaries. Many of these reports also include a section devoted to end user perspectives, based on results from a survey of scientists and researchers whose work reflects the focus of the publication.

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