DISCOVERY PARTNERS INTERNATIONAL INC
Form 10-K
March 16, 2006

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

ý **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2005

Or

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 000-31141

Discovery Partners International, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**33-0655706**
State or other jurisdiction of incorporation or organization	(I.R.S. Employer Identification No.)
9640 Towne Centre Drive,	
San Diego, California	**92121**
(Address of principal executive offices)	(Zip Code)

Registrant s telephone number, including area code: (858) 455-8600

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, $.001 par value
(Title of class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405of the Securities Act.

o Yes ý No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

o Yes ý No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ý No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o Accelerated filer ý Non-accelerated filer o

Indicate by check mark where the registrant is a shell company (as defined in Rule 12b-2 of the Act). o Yes ý No

The aggregate market value of the Common Stock of the registrant (the Common Stock) held by non-affiliates of the Registrant, based on the last sale price of the Common Stock on June 30, 2005 (the last business day of the registrants most recently completed second fiscal quarter) of $2.86 per share as reported by the Nasdaq National Market, was approximately $75,300,000. Shares of Common Stock held by each officer, director and holder of 10% or more of the outstanding Common Stock, if any, have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for any other purposes. As of March 1, 2006 there were 26,436,931 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s definitive Proxy Statement to be filed with the Securities and Exchange Commission by May 1, 2006 are incorporated by reference into Part III of this Annual Report on Form 10-K.

DISCOVERY PARTNERS INTERNATIONAL, INC.
FORM 10-K

For the Year Ended December 31, 2005

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PART I

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements that involve a high degree of risk and uncertainty. Such statements include, but are not limited to, statements containing the words believes, anticipates, expects, estimates and words of similar import. Our actual results could differ materially from any forward-looking statements, which reflect management s opinions only as of the date of this report, as a result of risks and uncertainties that exist in our operations, development efforts and business environment. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements You should carefully review Risk Factors described elsewhere in this Annual Report on Form 10-K and the risk factors described in other documents that we file from time to time with the Securities and Exchange Commission, or SEC, including our Quarterly Reports on Form 10-Q.

We were originally incorporated in California on March 22, 1995 as IRORI. In October 1998, we changed our name to Discovery Partners International and in July 2000 we reincorporated in the state of Delaware. In October 2005, we sold the assets related to our instrumentation product lines. Our consolidated financial statements and selected financial data contained herein have been recast to reflect the financial position, results of operations and cash flows of the instrumentation product lines as a discontinued operation.

We own the following trademark among others: Xenometrix®. The following trademarks, among others, are currently pending registration: µARCS and ChemCard . All other brand names or trademarks appearing in this report are the property of their respective holders. Use or display by us of other parties trademarks, trade dress, or products in this report is not intended to, and does not, imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owners.

Item 1. Business.

Overview

We collaborate with pharmaceutical and biopharmaceutical companies to advance their drug discovery process through our integrated and highly efficient collection of drug discovery technologies, products and services focused from the point immediately following identification of a drug target through when a drug candidate is ready for pre-clinical studies. Despite numerous technological advances in chemistry, high throughput screening, genomics and proteomics, the process of drug discovery remains slow, expensive and often unsuccessful. In order to make the drug discovery process faster, more efficient and more likely to generate a drug candidate, we offer an integrated platform of drug discovery technologies, including assay development, high throughput screening, design and synthesis of proprietary libraries of compounds for screening and primary hit-to-lead expansion, lead compound optimization, drug discovery informatics and *in vitro* toxicology profiling. These products and services can be provided individually or as an integrated solution, depending on our customers requirements. We believe our depth of knowledge and experience, and our range of product offerings, across these areas of drug discovery differentiates us from our competitors. During 2005, we increased the focus on offering integrated drug discovery services as part of long-term collaborations, while we continued to work with companies worldwide in all aspects of drug discovery research. In late 2004, we inaugurated

our compound management facility sponsored under our contract with the National Institute of Mental Health of the National Institutes of Health, or NIH, as part of the new NIH chemo-genomic Roadmap Initiative. Our core compound management operation has the ability to select, manage and curate a compound collection of up to one million compounds and has begun to provide samples to the nine national screening centers that have been selected by the NIH to participate in its Roadmap Initiative. In 2005, we generated revenue from 46 customers worldwide, including Pfizer, The National Institute of Mental Health, Actelion, Allergan and Renovis.

However, even with this steady progress, it has become evident during 2005 that the basic business sector in drug discovery contract research and services was undergoing a major and quite unfavorable market shift. Worldwide improvements in communications and shipping, coupled with entrepreneurial efforts in rapidly developing locations such as India, China and Eastern Europe, enabled the highly skilled scientists in those areas to build companies providing a similar range of products and services to us and our peer group, but at significantly lower prices. New guarantees of protection of intellectual property in these locations has offered the necessary assurances to the biotech and pharmaceutical industry that the decision to outsource basic drug discovery offshore has become driven by low price. This shift has essentially resulted in the loss of our ability to consummate synthetic chemistry library contracts, the principal basis of our business in preceding years.

In the fourth quarter of 2005, discussions with Pfizer to renew our contract were ended. With the absence of a new contract with Pfizer, we began the process of reducing our combinatorial chemistry and library synthesis operational capacity through a restructuring of our South San Francisco facility and consolidation of our chemistry platform into our San Diego facility. The NIH Roadmap compound management facility remains fully staffed and operational in our South San Francisco location. In the fourth quarter of 2005, we sold our instrumentation product line, as it was not consistent with our collaborations strategy. We also believe that offshore pricing pressure on biology services, similar to those that already noted in chemistry services, has and will continue to force us to reduce our reliance on fee-for-service work as the primary basis of our business.

We enter 2006 cognizant of these changes in our business under reorganized management and with an imperative from our Board of Directors to make the best use of our current financial and scientific assets to accelerate our entry into more substantial value-creating activities. We have engaged consultants to assist us in evaluating a range of options to best deploy our resources in order to improve stockholder value, including divestiture of assets and merger or acquisition opportunities that are specifically identified to create or enhance a drug development-based product portfolio with defined risk and timelines to clinical milestones with generally acknowledged market value, and which may involve a change in control of our company. As we transition our strategic initiatives and reorganize our operational capacity, the trends and risks that apply to our business will change from those that are described in this Annual Report on Form 10-K based on our business to date, and we believe our historical operating results based on our past operational contract services model are not indicative of future results. We cannot assure that we will be successful in accomplishing any of these strategic initiatives or that any strategic transaction that may occur will be accomplished on favorable terms.

In the event that we divest the various operating assets of the company, it is possible that we may not successfully recover the $8.8 million of total long-lived assets (excluding restricted cash) that are reflected on our consolidated balance sheet at December 31, 2005, which may result in future impairment charges up to this amount. There are one or more viable alternatives that would not lead to a loss on the recoverability of our long-lived assets. In the event that we engage in a merger or acquisition transaction, it is possible that the value realized by our shareholders in such a transaction might be significantly less than the $95.1 million of shareholders equity recorded on our consolidated financial statements as of December 31, 2005, due to the fact that our market capitalization is significantly below the book value of our shareholders equity. Lastly, in the event that we are unsuccessful

with the divestiture of our assets or are unable to successfully conclude any merger or acquisition activity, it is possible that our Board of Directors could decide to liquidate all of our assets, in which event the value realized by our shareholders would be significantly less than the $95.1 million of shareholders equity recorded on our consolidated financial statements as of December 31, 2005.

Industry Background

The Genomics/Proteomics Revolution

The drug discovery process continues to undergo fundamental changes as a result of advances in genomics and proteomics, the studies of genes and the proteins they encode, and how those genes and proteins cause or prevent disease. Prior to these advances, pharmaceutical and biopharmaceutical companies addressed fewer than 500 identified drug targets in the development of drugs. Industry experts now agree that the application of genomics and proteomics has led to the identification of thousands of potential new drug targets, whose roles in disease pathology will not be fully clarified for decades. Drug targets are a subset of the numerous biological molecules, such as enzymes, receptors, other proteins and nucleic acids, which may play a role in the onset, maintenance and progression of a disease. The Pharmaceutical Research and Manufacturers of America, or PhRMA, reported that its members alone spent an estimated $38.8 billion worldwide on research and development in 2004, with approximately 25% of this total amount being spent on the stages of drug discovery in which we focus.

Genomics and proteomics have been the subject of intense scientific and commercial focus. Genomics has led to the identification of large numbers of genes encoding potential drug targets, increasing the demand for drug discovery products and services. Once a company has identified a potential drug target, it must still devote significant time and resources to validating the target s role in the disease process and screening libraries of compounds against the target to discover potential drug candidates, which must be optimized further before commencement of human testing.

The Drug Discovery Process

Despite numerous advances and technological breakthroughs in genomics, proteomics, high throughput screening and chemistry, the process of discovering drug candidates from drug targets, as illustrated in the following figure and described below, remains slow, expensive and often unsuccessful.

Drug targets. According to the official website of the Human Genome Project a program under the stewardship of the National Institutes of Health, Department of Health and Human Services, of the United States government the genomics revolution has identified between 20,000 and 25,000 human genes that encode the information for cells to produce the proteins that determine human physiology and disease. Drug discovery organizations often advance these new drug targets into discovery with varying degrees of understanding about their role in disease processes and their susceptibility to modulation by chemical compounds. Modulation is defined as the process of selectively increasing or decreasing the biological activity of a particular drug target.

Assays. Once a drug target has been identified and has been validated as having a role in a disease process, a corresponding set of biological assays, or tests, that relate to the activity of the drug target in the disease process must be developed. These assays are designed to show the effect of chemical compounds on the drug target and/or the disease process. Additionally, assays indicate the relative potency and specificity of interaction between the target and the compounds. The more potent and specific the interaction between the target and the compound, the more likely the compound is to become a drug.

Compound libraries. Typically, biologists or biochemists conduct assays in which they screen compound libraries - collections consisting of thousands of compounds each - to find those few compounds that are active in modulating the behavior of the drug targets. Up through the late 1980 s, chemists generated these compounds for testing mostly by synthesizing them one at a time, or painstakingly isolating them from natural sources. During the last decade, the pharmaceutical industry has developed more sophisticated synthetic chemistry approaches, including modular building block techniques, known as combinatorial chemistry, to generate many more diverse compounds far more quickly.

Screening. Screening is the process of testing compounds in assays to determine their potential therapeutic value. A typical screening campaign at a pharmaceutical company will entail screening hundreds of thousands of compounds from multiple compound libraries. Today s automated high throughput screening, or HTS, systems can test hundreds

of thousands of compounds per day and require only very small amounts of each compound and target material. To address the impact of chemicals on complex systems, the drug discovery industry introduced the capability of High Content Screening, or HCS. HCS enables the analysis of multiple independent or interacting targets in intact cells, thereby providing a deeper understanding of drug action and target validity.

Hit-to-lead chemistry. A successful screening process will identify a number of compounds, or hits, that show activity against the drug target. One or more of the hits are then selected for optimization based on their potency and specificity against the drug target. The hits selected for the optimization process are generally referred to as leads.

Optimizing a lead compound involves repeatedly producing several slight chemical variants of the lead compound and screening them in assays to discover the relationship between the changes in the molecular structure of compounds and the positive or negative effect on biological activity of the target in the assay. These relationships are called structure-activity relationships, or SARs, and are used to identify the compounds that have the optimal effect on the biological activity of the target in the assay. Traditionally, defining SARs was painstakingly slow. Within the last several years, combinatorial chemistry methods have helped to speed up this process by creating focused libraries that are comprised of dozens to hundreds of compounds, computationally designed to explore the SARs of leads.

ADME and toxicology. Once a lead compound with a well understood SAR is selected for further development, researchers undertake the process of establishing its absorption, distribution, metabolism and excretion, or ADME, and toxicology characteristics. Leads are studied in biochemical assays and pre-clinical animal studies to determine, among other things, whether they are likely to be safe in humans and stay in the body long enough to perform their intended function. Traditionally, these ADME and toxicology studies are performed at the end of the drug discovery process. There is a significant push in the industry, however, to attempt to provide ADME and toxicology information earlier in the process in order to avoid large expenditures on compounds that could ultimately fail due to their poor ADME and toxicology characteristics.

Drug candidates. If the results of the ADME and toxicology studies performed on a lead are favorable in pre-clinical studies, an investigational new drug application, or IND, may be filed with the Food and Drug Administration requesting permission to begin clinical trials of the drug candidate in humans.

Limitations of the Current Industry

To treat diseases and to meet growth expectations, pharmaceutical companies are under intense pressure to introduce new drugs, and they have increased research and development expenses more than 300% from $8 billion in 1990 to $38.8 billion in 2004 according to PhRMA. Despite major scientific and technological advances in areas such as genomics, HTS, HCS and combinatorial chemistry, the drug discovery process remains lengthy, expensive and often unsuccessful. We believe this is due to the following significant limitations to the current process of drug discovery:

Insufficient validation of targets. Drug discovery organizations are advancing many potential new drug targets into discovery without significantly understanding their role in disease processes and their susceptibility to modulation by compounds. Resources spent on pursuing these potential drug targets could be saved if there were better biological or chemical methods to eliminate, early in the process, those drug targets exhibiting undesirable characteristics in these areas.

Inadequate informatics and computational tools. Success of many drug discovery programs is predicated on screening large numbers of compounds, followed by the synthesis and testing of compounds for optimization and for their ADME and toxicology characteristics. This sequential approach is time-consuming and costly. Although many of the recent advances in drug discovery have been targeted at streamlining this process and have allowed large numbers of compounds to be generated and tested in higher throughput, these advances have been in small increments. In addition, the identification of thousands of new drug targets through the application of genomics and proteomics technologies has resulted in large amounts of data being generated. Pharmaceutical companies can save large expenditures of time and money by using informatics and computational tools to manage the data and develop increased and earlier knowledge about which targets are likely to be receptive to chemical modulation, the likely interaction of chemicals and biological targets and which compounds are likely to have unacceptable ADME and toxicological characteristics.

Lack of an integrated, noncompeting drug discovery solution. Many of the companies that provide drug discovery services to the pharmaceutical and biopharmaceutical industries provide only selected services. As a result, they are unable to provide the knowledge and efficiencies that can be gained by broad experience in all facets of drug discovery. Further, customers seeking a totally outsourced solution must use valuable resources to manage multiple vendors and integrate inconsistent or incompatible products. Many drug discovery service providers also compete with their potential customers by conducting internal, proprietary drug discovery activities.

Limited predictive value of model systems. Drug candidates are normally tested in animal models or in selected in vitro and ex vivo models to evaluate their efficacy. Many of these models only partially reflect the drug candidates effects in humans. Proof of efficacy can often only be obtained in clinical studies. Methods and systems which allow a compound to continue through the pre-clinical phase in a cost effective manner and add to the understanding of the mechanisms of action of drug candidates in complex systems might significantly improve the discovery success rate.

Our Solution

We collaborate with pharmaceutical and biopharmaceutical companies to advance their drug discovery process through our integrated and highly efficient collection of drug discovery technologies focused from the point immediately following identification of a drug target through when a drug candidate is ready for pre-clinical studies. Our customers include many major pharmaceutical companies and numerous biopharmaceutical companies. We do not discover or develop drugs for our own account and we do not compete with our customers. We believe the broad range of products and services we offer or intend to offer, either as part of long-term collaborations, or as fee-for-service contracts, will provide the following benefits:

Target validation. We have developed, through outright purchase, license and proprietary methodologies, a large number of libraries of highly diverse synthetic and natural product compounds that are expected, and in some cases, specifically designed, to modulate many drug targets. We believe the use of these compound libraries, which are not sold on a stand-alone basis but rather offered as part of an integrated drug discovery solution, may provide early information about whether a drug target is susceptible to chemical modulation and, if so, whether modulation of its activity has an important effect on the disease process or outcome. If these libraries are successful in providing this information early in the drug discovery process, our partners can save significant amounts of time and resources by abandoning the pursuit of targets that do not exhibit favorable chemical and biological characteristics.

High quality synthetic compound libraries. Our synthetic chemistries are easily replicated and our compounds rapidly replenishable because we produce detailed synthesis protocols for each chemical compound library. We are able to rapidly create focused libraries containing slight variations of hits from our original discovery or targeted libraries to study SARs. Working with our customers, we design libraries for maximum diversity using commercial and proprietary computer algorithms. Finally, after synthesis of a compound, we use multiple analytical methods to ensure a high degree of compound purity. As a consequence, our libraries contain highly diverse, drug-like compounds of high purity.

Purified natural product libraries. Our acquisition of the assets of Biofrontera Discovery GmbH, in Heidelberg, Germany, was completed in April 2005. Among the assets acquired by us at that time are rights to a large and diverse collection of bacterial and fungal microbial strains, and a library of natural products, which are chemical compounds produced by those microbes under specifically defined laboratory conditions. Our natural product libraries are differentiated from other natural product sources by their unique microbial origins, and by the methodology that is used to purify and characterize the resulting compounds. We do not screen fermentation broths or crude extracts. Rather, the libraries we utilize in screening are both fully purified

(approximately 100,000 samples each containing a single natural product compound), and pre-purified (approximately 145,000 samples each containing between 8 and12 natural product compounds), using a proprietary serial high performance liquid chromatography, or HPLC, process. These natural product samples can be applied to any HTS project in the same way that synthetic chemical libraries are used. Following the identification of hits, libraries are then generated by scale-up fermentation and purification, followed by semi-synthetic transformations to produce focused analog libraries for SAR determination and subsequent preclinical evaluation.

Broad range of products and services for assay development, chemistry and screening. We currently offer a broad range of drug discovery products and services to pharmaceutical and biopharmaceutical companies targeted at assay development, chemistry and screening, either as part of multi-target collaborations, or under more limited fee-for-service contracts. We have performed more than 190 discovery projects for our customers and provide access to more than 650,000 discrete synthetic chemical compounds. Our approach for efficiently finding screening hits or drug leads combines proprietary computational methods for compound selection and data mining with our high throughput screening platform. In addition, our team of chemists and biologists has worked on several hit and lead optimization projects for our customers. When applicable, we employ our µARCS technology to improve the ease of access to screening and cost effectiveness of the screening process. In addition, we possess the capability to quantitatively study the effect of drugs on a sub-cellular level.

Development of an informatics and computational tools knowledge base. We apply sophisticated computational software tools to generate predictive information in the early stages of drug discovery. We use our tools to correlate information available on families of drug targets and compounds with screening data to predict which drug targets are likely to be receptive to chemical modulation, and which chemical structures are likely to react favorably with large families of drug targets or produce unacceptable ADME or toxicological results. We have also developed computer algorithms that reduce the number of compounds that must be screened to identify hits. We believe our computational tools complement the drug discovery process and reduce the time and resources involved.

Integrated drug discovery products and services. As part of long-term collaborations, we offer an integrated drug discovery platform that provides unique value to our customers. We believe our focus on our customers needs, rather than our own drug development efforts, makes our product and service offerings more attractive. Additionally, we believe we have the ability to collaborate with multiple customers effectively and to efficiently maintain confidential proprietary information while successfully providing products and services to our customers.

Our Strategy

Our strategy has been to be a leading fee-for-service provider of a complete, integrated and highly efficient drug discovery technology platform designed to overcome many of the limitations associated with the slow and expensive traditional drug discovery process. However, it has become evident during 2005 that the market for drug discovery contract research and services has undergone a major and negative shift. Worldwide improvements in communications and shipping, coupled with entrepreneurial efforts in rapidly developing locations such as India, China and Eastern Europe, have enabled the highly skilled scientists in those areas to build companies providing a similar range of products and services to us and our peer group, but at significantly lower prices. New guarantees of protection of intellectual property in these locations has offered the necessary assurances to the biotech and pharmaceutical industry that the decision to outsource basic drug discovery offshore has become driven by low price. This shift has resulted in the loss of our ability to consummate synthetic chemistry library contracts, the principal basis of our business in preceding years.

In the fourth quarter of 2005, discussions with Pfizer to renew our contract were ended. With the absence of a new contract with Pfizer, we have reduced our combinatorial chemistry and

library synthesis operational capacity through a restructuring of our South San Francisco facility, consolidating our chemistry platform into our San Diego facility. The NIH Roadmap compound management facility remains fully staffed and operational in our South San Francisco location. We sold our instrumentation product line, as it was not consistent with our collaborations strategy. We also believe that offshore pricing pressure on biology services, similar to that already noted in chemistry services, has and will continue to force us to reduce our reliance on fee-for-service work as the primary basis of our business.

We have determined though both our own marketing efforts and the investigations of independent consultants we retained that our past strategy of providing contract research is no longer viable in the context of a public company due to the severe pricing pressures that have developed in the last year from low-cost offshore competitors. Remaining in this sector as our sole business strategy would require significant expenditures of capital over many years as a co-investment with customers. We would incur significant losses and introduce significant risk for our business as a whole.

We enter 2006 cognizant of these changes in our business under reorganized management and with an imperative from our Board of Directors to make best use of our current financial and scientific assets to accelerate our entry into more substantial value-creating activities. We are currently exploring a range of options to best deploy our resources in order to improve stockholder value, including divestiture of assets and merger or acquisition opportunities that are specifically identified to create or enhance a drug development-based product portfolio with defined risk and timelines to clinical milestones with generally acknowledged market value, and which may involve a change in control of our company. As we transition our strategic initiatives and reorganize our operational capacity, the trends and risks that apply to our business will change from those that are described in this Annual Report on Form 10-K based on our business to date, and we believe our historical operating results based on our past operational contract services model are not indicative of future results. We cannot assure that we will be successful in accomplishing any of these strategic initiatives or that any strategic transaction that may occur will be accomplished on favorable terms.

In the event that we divest the various operating assets of the company, it is possible that we may not successfully recover the $8.8 million of total long-lived assets (excluding restricted cash) that are reflected on our consolidated balance sheet at December 31, 2005, which may result in future impairment charges up to this amount. There are one or more viable alternatives that would not lead to a loss on the recoverability of our long-lived assets. In the event that we engage in a merger or acquisition transaction, it is possible that the value realized by our shareholders in such a transaction might be significantly less than the $95.1 million of shareholders equity recorded on our consolidated financial statements as of December 31, 2005, due to the fact that our market capitalization is significantly below the book value of our shareholders equity. Lastly, in the event that we are unsuccessful with the divestiture of our assets or are unable to successfully conclude any merger or acquisition activity, it is possible that our Board of Directors could decide to liquidate all of our assets, in which event the value realized by our shareholders would be significantly less than the $95.1 million of shareholders equity recorded on our consolidated financial statements as of December 31, 2005.

Our Technology Platform

Our technology platform has been designed to make the drug discovery process faster, more efficient and more likely to generate a high quality drug candidate. We currently have capabilities in many functional disciplines of the drug discovery process that can be purchased individually or as integrated solutions, depending on our customers requirements. We have continued to add to

our functional offerings in order to provide a comprehensive and integrated suite of drug discovery products and services to our pharmaceutical and biopharmaceutical customers.

Assays

We provide assay development services through our team of scientists who are experienced in working with major disease target classes such as protein kinases, G-protein-coupled receptors, nuclear receptors, phosphatases, and proteases. Biological systems about which we have expertise include enzymes, receptor-ligand interaction, protein-protein interaction, ion channel assays, reporter-gene assays in prokaryotic and eukaryotic cells, cellular proliferation, differentiation and physiologic response, and microbial growth. Most recently we established HCS technology in-house. This allows us to profile compounds for their effect on multiple intracellular events in one assay. We have the ability to provide assay development services through our subsidiary, Discovery Partners International AG.

We have established, through both internal development and sublicense, a high-throughput panel of *in vitro* assays that provide data on multiple parameters relevant to the pharmaceutical, pharmacokinetic and metabolic properties of individual compounds or whole libraries. This panel is comprised of approximately 20 assays, including those for solubility, permeability, metabolic liability, and potential for interaction with key enzymes involved in metabolism of drugs, and a critical receptor indicative of potential cardiac side effects. The resulting PK-ADMET profile, reflecting pharmacokinetic-absorption-distribution-metabolism-excretion-toxicity data, profile is a valuable adjunct data set to the potency and selectivity SAR data used to select compounds for further evaluation in subsequent more expensive and time-consuming activities.

We offer unique cell-based assays with multiple gene response indicators, which give specific information on the potential beneficial and harmful biological activities of a given pharmaceutical compound. Genetically engineered living cells allow us to determine the on and off state of gene promoters in the presence of compounds. Our portfolio of reporter cell lines may provide important efficacy and safety information to help optimize the selection of drug candidates before moving to the more costly stages of pre-clinical and clinical testing.

Proprietary Libraries of Compounds

We offer the following broad range of highly purified compound libraries for assay screening and rapid hit-to-lead activities:

Discovery libraries. We generate and sell discovery libraries, which are collections of diverse, drug-like compounds that are designed using computer programs to systematically explore specified areas of chemical space or types of chemistry. They are used in the initial stages of screening in which very little information is known about which compounds will alter the activity of the drug target in the assay.

Targeted libraries. We design and sell targeted libraries selected for a specified type of drug target. These libraries are a group of highly related compounds used much like discovery libraries, but they provide a more insightful medicinal chemistry starting point.

Focused libraries. We are able to rapidly generate focused libraries based on hits from our discovery or targeted libraries because we have previously invested significant resources to produce detailed synthesis protocols in the development of each library of compounds. Focused libraries explore subtle changes in the compound structure to quickly elicit SARs and evolve lead compounds. In addition, we develop focused libraries from hits generated by our customers.

Chemistry protocols. In conjunction with the provision of proprietary compounds, we generally provide detailed protocols for generating our libraries to customers that purchase those libraries. This enables our customers to replenish compounds and to create additional compounds. We use a proprietary combinatorial chemistry technology platform to generate compound libraries that employs parallel synthesis and our directed sorting technology. Our approach provides the following advantages:

Purity: Maximum purity is important to minimize false positives during screening. We can deliver compounds that are greater than the current industry standard of 90% pure depending on customer specifications. Our quality control measures include high performance liquid chromatography, mass spectroscopy, nuclear magnetic resonance, evaporative light scattering detection and weight percent analysis. We achieve the required purity using several purification technologies including our proprietary ARW high throughput purification process;

Diversity: Each discovery library of approximately 1,000 to 5,000 drug-like compounds is designed to contain a set of highly diverse compounds using our chemical mapping and differentiation software;

Ease of optimization: The individual chemistries for each library are highly validated and characterized. This allows rapid generation of focused libraries around hits and rapid follow-up and modification by medicinal chemistry programs; and

Re-supply and reproducibility: Our synthesis approaches produce large quantities that allow rapid and cost effective restocking of customers supplies. Our highly validated chemistries allow us or our customers to re-synthesize larger quantities on demand.

Screening

We offer high throughput screening services through an experienced staff of scientists located at our facility near Basel, Switzerland. We also offer our customers access to compounds from many of the world s leading compound suppliers as well as a significant collection of internally developed compounds. This allows our partners access to a large and diverse collection of compounds without the need to store and manage the compound collections in their own facilities.

Our HTS modules are equipped to quickly and efficiently process the particular assay being carried out. A module consists of the appropriate plate and liquid handling equipment, coupled with the best read out technology for the assay being run. We deliver a list of validated hits to our screening customers. We also provide hit follow-up and verification services and, when desired, actual physical samples of the hit compounds.

Hit-to-Lead Chemistry

We have developed products and services to advance early stage screening hits to optimized drug leads. These products and services include the following:

Custom focused libraries. In addition to our collection of proprietary libraries, we design and produce custom, focused libraries based upon hits identified from screening. These hits may be from our compound libraries, the customer s internal compound collection or even from another compound library supplier. Focused libraries consist of compounds that represent systematic variations of hits. Medicinal chemists use these focused libraries to begin refining hits to optimize the properties that have an effect on the drug target in the assay. Because we invest significant resources in the development of each of our compound libraries, we are able to

generate focused libraries based on hits from our discovery libraries or targeted libraries more rapidly than when we begin from an isolated hit resulting from a customer s compound collection.

Medicinal chemistry. We provide a wide range of medicinal chemistry and other lead optimization services. This includes the synthesis of compounds that modify the original hit or lead for improved potency, selectivity and other pharmaceutical characteristics. We have an experienced group of synthetic organic chemists and medicinal chemists with expertise in both solid phase chemistry and solution phase chemistry. In some cases we provide medicinal chemistry services in conjunction with our computational drug discovery efforts to design and construct small libraries of compounds to act on specific targets of known structure.

Biological profiling in the hit-to-lead phase. We also provide a broad range of biological profiling including the primary screening test, specificity assays, cellular assays, ADME and in vitro toxicology tests. Our multi-parameter analysis tools allow efficient data analysis and selection of compounds that fit the product profile.

Drug Discovery Informatics; ADME and Toxicology

We employ computational tools that we believe will allow us to continue to increase our knowledge of the characteristics of targets, leads, and ligand-target interactions and which we believe can be applied throughout the drug discovery process to significantly reduce the time and cost of developing a drug. We currently have computer algorithms that allow us to design libraries of compounds with high diversity, thereby increasing the likelihood of finding hits during screening. When screened against large numbers of potential drug targets, we believe these large and highly diverse libraries will provide significant information about which drug targets are amenable to modulation by chemical means. We have developed novel algorithms to aid in the understanding and utilization of the data resulting from high throughput screening experiments. We have also developed a proprietary analysis tool, which we believe will allow us to use screening data to correlate drug target families with the types of compounds that will likely bind to them. Using this tool, we will seek to design highly effective targeted libraries for whole drug target families. In addition, we will seek to use this tool to efficiently design potent compounds for a particular drug target and to efficiently search databases of compounds available from other vendors for likely leads.