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Emerging Company Research

Complete Genomics — Initiating With Outperform (1)

First-mover In Emerging Sequencing-as-Service Subsector

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Analysts
Doug Schenkel
(617) 946-3918
doug.schenkel@cowen.com

Brigham Hyde, Ph.D.
(617) 946-3703
brigham.hyde@cowen.com

Summary: Complete Genomics utilizes its proprietary DNA sequencing platform to compete in the rapidly growing $1B genetic sequencing industry as an "end-to-end" whole human genome sequencing outsource service targeting the life science research, clinical, and consumer genetics markets. The company enables customers to offload the complex processes of sample preparation, sequencing, computing, and data storage and management at a cost per genome below that currently available on competitive platforms sold by instrument vendors. The company is positioned to opportunistically use its first-mover advantage in the sequencing outsourcing market and the cost-advantages unique to its proprietary instrumentation to expand and capitalize on this highly-elastic market opportunity. Given the growth potential of the company and the industry, we believe GNOM is positioned to outperform the market by 15% over the next 12-18 months. Initiate at Outperform.

- **Validated Approach.** GNOM has demonstrated that it can execute a whole human genome sequence at greater the 99.999% accuracy (>30x coverage); at a minimum, this is comparable to that of genomes sequenced on platforms sold by instrument vendors. The approach is validated by the presence of more then 35 high-quality customers, including major biopharma companies and leading genetics researchers globally. GNOM's proprietary sequencing approach has also been validated via the publication of several peer reviewed journals in the past year.

- **Positioned For Upside.** Our comparable company valuation and DCF analyses suggest GNOM shares are positioned to outperform the market by 15% over the next 12-18 months. Recognizing the company's commercial stage of development remains early, we believe the bias is to the upside given our proprietary industry checks suggesting demand for sequencing services is robust, and given that our forecast incorporates seemingly conservative market assumptions.

GNOM (12/20)	**$6.89**
Mkt cap	**$178.5MM**
Dil shares out	25.9MM
Avg daily vol	56.1K
52-wk range	$6.6-9.0
Dividend	Nil
Dividend yield	Nil
BV/sh	$2.52
Net cash/sh	$1.60
Debt/cap	2.6%
ROA (LTM)	NA
5-yr fwd EPS growth (Norm)	NA
S&P 500	**1247.1**

Revenue $MM

FY Dec	2009 Actual	2010E Prior	2010E Current	2011E Prior	2011E Current	2012E Prior	2012E Current
Q1	0.0	—	0.3A	—	4.7	—	12.9
Q2	0.0	—	1.1A	—	5.4	—	14.8
Q3	0.0	—	4.2A	—	9.9	—	22.8
Q4	0.6	—	3.1	—	13.0	—	24.5
Year	**0.6**	**—**	**8.7**	**—**	**34.0**	**—**	**75.0**
EV/S	—	—	19.8x	—	5.1x	—	2.3x

EPS $

FY Dec	2009 Actual	2010E Prior	2010E Current	2011E Prior	2011E Current	2012E Prior	2012E Current
Q1	0.00	—	0.00A	—	(0.54)	—	(0.34)
Q2	0.00	—	0.00A	—	(0.52)	—	(0.31)
Q3	0.00	—	0.00	—	(0.48)	—	(0.11)
Q4	0.00	—	(0.60)	—	(0.35)	—	(0.08)
Year	**0.00**	**—**	**(2.33)**	**—**	**(1.89)**	**—**	**(0.85)**
P/E	—	—	—	—	—	—	—

Company Overview

Complete Genomics utilizes its proprietary DNA sequencing platform to compete in the rapidly growing $1B genetic sequencing industry as an "end-to-end" whole human genome sequencing outsource service targeting the life science research, clinical, and consumer genetics markets. The company enables customers to offload the complex processes of sample preparation, sequencing, computing, and data storage and management at a cost per genome below that currently available on competitive platforms sold by instrument vendors. The company is positioned to opportunistically use its first-mover advantage in the sequencing outsourcing market and the cost-advantages unique to its proprietary instrumentation to expand and capitalize on this highly-elastic market opportunity.

Investment Thesis

Our comparable company valuation and DCF analyses suggest GNOM shares are positioned to outperform the market by 15% over the next 12-18 months. Recognizing the company's commercial stage of development remains early, we believe the bias is to the upside given our proprietary industry checks suggesting demand for sequencing services is robust, and given that our forecast incorporates seemingly conservative market assumptions.

Summary Annual Income Statement

$MM, except per share data	2009	2010E	2011E	2012E	2013E	2014E	2015E	4-yr CAGR
Revenues	$0.6	$8.7	$34.0	$75.0	$135.0	$150.0	$165.0	80.3%
COGS	5.1	19.6	31.9	40.7	60.8	64.5	66.0	27.5%
Gross profit	-$4.5	-$10.9	$2.2	$34.3	$74.3	$85.5	$99.0	NM
Sales & Marketing	1.8	7.2	15.1	17.8	20.0	22.0	23.7	26.9%
General & Administrative	5.0	8.3	9.9	10.4	11.2	12.0	12.7	8.9%
Research & Development	22.4	24.0	26.0	28.1	30.0	31.8	33.4	6.9%
Operating Profit	-$33.7	-$50.5	-$48.9	-$21.9	13.0	19.7	29.1	
Other Expense (Income)	0.0	8.8	0.0	0.0	0.0	0.0	0.0	
Interest Expense (Income)	0.0	1.0	0.1	0.0	0.0	0.0	0.0	
Pre-Tax Income	-$33.7	-$60.3	-$49.0	-$21.9	$13.0	$19.7	$29.1	
Taxes	0.0	0.0	0.0	0.0	3.9	6.9	10.2	
Net Income	-$33.7	-$60.3	-$49.0	-$21.9	$9.1	$12.8	$18.9	
EPS		-$2.33	-$1.89	-$0.85	$0.38	$0.53	$0.79	
Share Count		25.9	25.9	25.9	24.0	24.0	24.0	
Margin Analysis:								
Gross Profit		-126.3%	6.3%	45.7%	55.0%	57.0%	60.0%	
Sales and Marketing		83.3%	44.4%	23.7%	14.8%	14.6%	14.4%	
General & Administrative		95.9%	29.1%	13.8%	8.3%	8.0%	7.7%	
Research & Development		276.9%	76.4%	37.4%	22.3%	21.2%	20.3%	
Operating margin		-582.4%	-143.6%	-29.3%	9.7%	13.1%	17.7%	
Tax Rate		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Net Income		-696.0%	-144.0%	-29.3%	6.8%	8.5%	11.5%	
Growth Analysis:								
Revenue		NM	293%	120%	80%	11%	10%	
Gross Profit		NM	NM	NM	117%	15%	16%	
Sales & Marketing		302%	109%	17%	12%	10%	8%	
General & Administrative		68%	19%	5%	8%	7%	6%	
Research & Development		7.0%	8.4%	8.0%	7%	6%	5%	
Operating Income		NM	NM	NM	NM	51%	48%	
Income Taxes		NA	NA	NA	30%	35%	35%	
Net Income		NM	NM	NM	NM	41%	48%	
Earnings Per Share		NM	NM	NM	NM	41%	48%	

Source: Company reports and Cowen and Company estimates.

Investment Highlights

New Entrant in Rapidly Growing NGS Market

Over the last several years, the next generation sequencing market has been the most rapidly growing segment within life science tools; the current market for next generation sequencing instruments and consumables exceeds $1B. Rapid expansion of this market has been driven by the dramatic reduction in the cost of sequencing since the first human genome was completed in 2001. The cost to sequence a complete human genome is now below $10,000, enabling larger sample volumes in studies. As this cost has declined, the high level of price elasticity in the whole genome sequencing market has been evident.

Complete Genomics' sequencing-as-a-service model enables researchers to carry out whole human genome sequencing studies without the large upfront capital investment, infrastructure, and personnel required to carryout next generation sequencing in-house. These attributes are likely to broaden the sequencing market and allow the company to gain share. Having only recently commenced commercial operations, 2010 revenue is expected to approximate $10MM; 2011 revenue is expected to approximate at least $30-40MM.

Leadership in Emerging NGS Outsourcing Sub-segment

The cost of sequencing a whole human genome has dropped from well over $1MM in 2001, to $200k when Illumina acquired Solexa, to under $10,000 today. Over that time the NGS market has expanded rapidly indicating a strong price elasticity of demand within this market. Complete Genomics is uniquely positioned to leverage internal technology and economies of scale to compete on a price per sample basis, while requiring no upfront infrastructure cost associated with instrument purchases and specialized personnel. Complete Genomics is the first sequencing as a service company to specialize in whole human genomes utilizing their own proprietary in-house technology platform. Additionally, the company should be well positioned to maximize operational and strategic leverage associated with their proprietary sequencing platform.

Technology and Approach Affirmed by Existing Customers & Peer Reviewed Publications

Any new technological approach is subject to extensive scrutiny by experts in the field due in large part to the high level of complexity and the critical importance of accuracy in genetic sequencing. Complete Genomics has demonstrated that it can execute a whole human genome sequence at greater the 99.999% accuracy (>30x coverage); this is, at a minimum, comparable to that of genomes sequenced on platforms sold by instrument vendors. The approach is validated by the presence of more then 35 high-quality customers, including major biopharmaceutical companies and leading genetics researchers globally. Additionally, the company's proprietary sequencing approach has now been validated via the publication of several peer reviewed journals in the past year.

Robust Expansion Potential in New Verticals

The company's current strategy focuses only on whole human genome sequencing in the research market which has been the primary driver of NGS growth. Genetic

sequencing demand includes several other areas of research, including alternative approaches such as exome sequencing, RNA sequencing, and sequencing species other than humans. Complete Genomics currently offers whole genome sequencing, CNV analysis, and translocation/rearrangement analysis. While management has indicated that the focus on whole human genomes will remain the companies position in the near term, Complete Genomics' technical approach could be reoriented to these additional research areas relatively rapidly. Lastly, demand has been building in the clinical market, particularly in oncology, and the potential for sequencing in diagnostic applications should provide significant upside in out years.

Well Positioned in an Unclear Funding Environment

A large portion of genetic research is currently government funded; the outlook for academic/government research funding is unclear and there is increased concern that funding will decline or growth will moderate. Regardless of how budgets develop, it is worth noting that high-end genomics has continued to garner a proportionally large share of academic/government scientific research funding over the past decade. Complete Genomics is well positioned either way. If budgets hold up as well or better than expected, the company will benefit. If budgets decline, Complete Genomics will be well positioned to address robust demand in an environment where capital spending is more constrained.

We also note that Complete Genomics is well positioned to address end markets, such as biopharma, which are interested in genetic sequencing as the cost per genome declines but hesitant to deploy capital pursuant to instrument build outs.

Investment Risks

Early Stage of Commercial Development

Complete Genomics has sequenced approximately 300-400 genomes today and generated $4.2MM in revenues in Q3:10. Our forecast is dependent on the rapid growth in the volume of samples the company will sequence, as well as a metered decline of ASP over the next several years. Currently, we assume that the company can sequence approximately 5,000 samples in 2011 and approximately 20,000 in 2012; and over that same period we forecast that ASP's fall from approximately $10,000 per sample currently to $3,000 per sample. While the sequencing market has experienced rapid growth, it has been dependent on positive funding trends. Funding risk in combination with an increasingly competitive marketplace could create a certain level of market risk for the company. In addition, the company's projections require operational execution both from a growing sales force, as well as with internal workflows which are critical to moving orders through the pipeline and driving revenue recognition.

Rapidly Evolving Market

The cost per genome has declined from over a $1MM per sample at the beginning of the 2000's to less then $10,000 heading into 2011. In the instrumentation market, new low cost instruments such as Life Technologies' Personal Genome Machine (Ion Torrent) are entering the market and many remove some the up front capital requirements associated with the 2nd generation sequencing instruments. While other sequencing-as-a-service providers do exist such as Illumina's Genome Network, Beckman Coulter's (Agencourt), and Roche's (454 Life sciences) service offerings, Complete Genomics is the first company to focus exclusively on whole human genome sequencing. Other lab testing companies may enter the market over time, particularly as the clinical market expands. While these companies would need to either develop their own sequencing technology or purchase instrumentation from existing vendors, other than that investment and the development of the internal infrastructure there is little preventing other testing companies from entering the market. While validation of internal processes as well as market adoption of new vendors may take a time, if demand projections meet expectations we believe that it is likely that other vendors will enter the market place.

Cash Burn Likely to Necessitate Additional Capital Raise

We currently project that Complete Genomics will be EBITDA positive in Q3:12. The company's cash burn currently exceeds $5MM per month; a significant capital investment is planned in 2011 to boost capacity. It is unlikely that the company will reach profitability with existing cash reserves. In fact, without an additional capital raise in 2011, we estimate that the company's year end cash balance will drop below $10MM.

Market Background

Genetic Analysis Market Opportunity

Every organism has a genome that contains the full set of biological instructions required to build and maintain a living example of that organism. The information contained in a genome is stored, or encoded, in deoxyribonucleic acid, or DNA, a nucleic acid that is found in each cell of the organism. DNA is divided into discrete units called genes, which carry specific information necessary to perform a particular biological function, such as instructions for making proteins. The chemical building blocks that make up each gene are the molecules adenine, cytosine, guanine and thymine, labeled as A, C, G and T, respectively, which are known as nucleotide bases. Human DNA has approximately three billion nucleotide bases, and their precise order is commonly known as the DNA or genetic sequence.

Importance of Genetic Variation to Health and Disease

Studying how genes and proteins differ between species and among individuals within a species, or genetic variations, helps scientists to determine their functions and roles in health and disease. These genetic variations can have important medical consequences. Genetic variations may, for example, cause an individual to have a predisposition to certain diseases or to respond differently to certain drug treatments. Accordingly, improving understanding of the genome and its functions has driven and, we expect, will continue to drive advancements in medical research and diagnostics.

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The Evolution of Next Generation Sequencing

The commercial development of sequencing technologies has enabled the research community to begin to interrogate the genetic basis of disease. The cost of sequencing a whole human genome has dropped from well over $1MM in 2001, to $200k when Illumina acquired Solexa, to under $10,000 today. The current price point of under $10,000 per genome has broadened the applicability of the whole human genome sequencing to research areas outside of major genome research centers. Studies which previously would have been to expensive to carry out, are now becoming possible. The price decline has proven to be highly elastic to the demand for size and volume of studies and the total sequencing market has accelerated in size as the price has dropped. As cost declines the market expands and sequencing captures share from existing legacy technologies.

The price elasticity of this market demonstrates that market expansion into several new verticals is likely as the price per genome approaches the coveted $1,000 genome level. Our checks indicate that the developing clinical oncology market is likely to expand rapidly at the $5,000 per genome level, the opportunity in biopharma for pharmcogenomics at $2,000 per genome, and the true clinical diagnostic market at the $1,000 level.

Limitations of Current Approaches to Genetic Sequencing, and the Opportunity for Outsource Providers

Next generation sequencing technologies have led to dramatic reductions in cost, and improvements in quality and throughput for complete human genome sequencing. However, they were designed as general-purpose instruments for sequencing the DNA or RNA of plants, animals, bacteria and viruses. Current approaches to next generation sequencing have 4 primary limitations in whole human genome sequencing:

- ***High Cost.*** In addition to extremely high upfront costs, staffing, maintaining, and operating the infrastructure renders large scale sequencing projects too expensive for most researchers.
- ***Insufficient Scale and Speed.*** Under the current installed base of sequencing instruments, whole genome sequencing on a large scale is time consuming and it can take months or years to complete.
- ***Bioinformatic and Data Analysis Challenges***. While the instruments and reagents associated with sequencing are expensive, the cost associated with data analysis, storage, bandwidth, and the need for specialized personnel, is often underestimated. Most estimates indicate that as the reagent cost of sequencing continues to drop the computing cost will become the primary burden for sequencing projects
- ***Need For Specialized Personnel.*** While at major genome centers a wealth of intellectual capital exists in the areas of genomics, engineering, and bioinformatics the majority of researchers who could utilize whole genome sequencing lack the specialized personnel to successfully execute whole genome sequencing in-house.

Current Cost per Sample for a Whole Human Genome

	LIFE	ILMN	GNOM
Consumables	$10K	$10K	
Instruments	$5-10K	$5-10K	
Computing	$3-6K	$3-6K	
Labor/Overhead	$5-10K	$3-6K	
Total Cost	**$23-36K**	**$21-32K**	**$10K**

Source: Company reports and Cowen and Company.

Opportunity for Sequencing-as-a-Service Providers

Researchers have typically purchased instrumentation and run samples in house, or relied on “core labs” or “collaborators”; the capital requirements and have limited the number of researchers pursuing sequencing related projects and the size of ongoing projects. Sequencing as a service leverages internal specialty and economies of scale to deliver high quality data, at a price per data point unmatched by internal sequencing projects, with a turnaround time faster then traditional core labs and collaborators. Lastly, in the case of Complete Genomic the company provides a leading software and data analysis offering that allows the customer to focus on the

meaning of the data for the disease in question as opposed to the rigor of data analysis.

Research Market Appears Ready for an Outsourcing Model

Due to the highly complex nature of sequencing analysis, as well as the critical importance of data accuracy, researchers have typically relied on in-house specialists to carryout sequencing efforts. However, results of our recent Genetic Editors Survey indicate that the use of sequencing as a service may actually make a study more likely to be published or a research grant more likely to be accepted, particularly if it increases the sample size of the study. Respondents view the use of a DNA sequencing service as neutral-to-positive in the context of reviewing publications/grants for DNA sequencing studies, and concerns about data accuracy seemed to have diminished.

Market Opportunity

Applications of Sequencing as a Service

Complete Genomics specializes in whole human genome sequencing, and services the academic, government, biopharmaceutical, and clinical research community. Whole human genome research encompasses a number of research areas including; cancer research, mendelian disease research, rare variant disease research, and clinical trial optimization. In addition to the research opportunity, the clinical opportunity, which is expected to emerge over time, includes companion diagnostics, cancer pathology, and universal consumer diagnostics.

Market Size for Whole Human Genome Sequencing

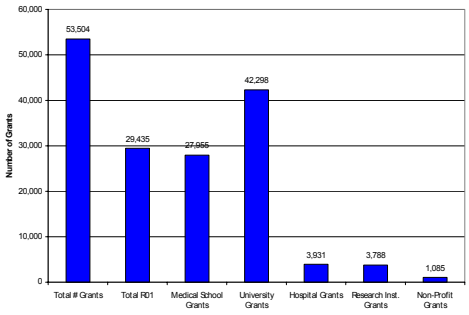
Estimates on the potential size of the market for whole human genomes vary between the thousands, to millions, to hundreds-of-millions of genomes depending on the published source. The current assumption is that over time as price declines, and the clinical opportunity for sequencing becomes a reality, the volume of genomes sequenced will exponentially expand. Below are some different approaches to sizing the market opportunity:

Funding Metrics and the Size of the Academic Research Market

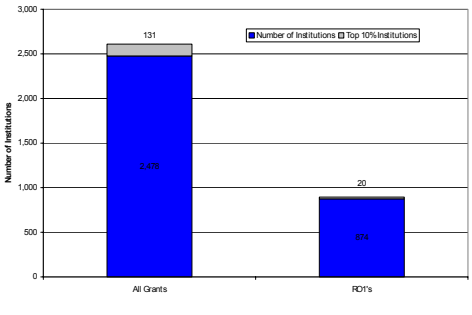
NIH grants are a source of funds to purchase sequencers and pay for consumables associated with sequencing. The NIH awards $30B of funding across 53,000 grants per year. Approximately, 875 institutions receive major research grants known as R01's, these institutions also receive >75% of grants and grant dollars.

Size of the Academic Research Market in the U.S.

Total NIH Grants Segmented by Recipient Type



Number of Grant Receiving Institutions



Source: NIH Reports and Cowen and Company.

The Next Generation Sequencing Installed Base as a Proxy for Demand

Currently, the next generation sequencer installed base in U.S. academic labs approximates 800 (approximately 1500 WW), we believe that the potential installed base of instruments at major RO1 receiving research centers could exceed 10,000. We arrive at this estimate simply by assuming each "RO1 Institution" could purchase 5 NGS; this could prove conservative given many have already exceeded this level. Based on these assumptions the U.S. research based NGS market is 10-20% penetrated. To put potential demand into context, we look at the current WW

installed base of legacy genetic analysis equipment. Microarray instruments have an installed base approximating 7,500, and first generation sequencing equipment has an installed base exceeding 10,000.

Installed Base Could Grow To Support Over 1MM Genomes Over Next Few Years

In order to get at the underlying market capacity for whole human genome sequencing using instrument installed base as a proxy, we used current throughput specs to determine the number of genomes that could be run on the existing global installed base. At current specs, the implied whole human genome capacity of the current global NGS installed base of approximately 2,000 instruments exceeds 250,000. Over the next 3 years, given recent growth trends and the "R01 Analysis" presented in the previous section, we believe it is possible the total NGS installed base could exceed 5,000. This installed base growth combined with expected performance improvements will likely position NGS instrumentation to have an aggregate capacity of at least 1MM genomes annually within 3 years. We note that based on the clinical opportunity discussed below there could be demand for much more capacity.

How Many Samples are Currently Being Genetically Analyzed?

Currently large genetic studies continue to be being carried out on microarrays due to cost and capacity constraints. Typically, the average size of a microarray-based study is in the 20,000-50,000 sample range, and tens of millions of samples have been run to date worldwide. As the cost of sequencing drops the number of samples run in large sequencing studies will approach and likely exceed that of microarray-based studies due to the increased content provided by whole genome sequencing. Furthermore, the statistical burden required to confirm a mutation in a disease cohort requires larger sample sizes.

Clinical Sequencing Market; a Developing Opportunity

The promise of whole genome sequencing has been that clinicians will be able to utilize the genetic information to diagnosis, treat, and customize the approach to disease for each patient. While broad use of genetic information in the clinical setting is not yet a reality, and several hurdles exist including regulatory, reimbursement, and interpretation of genetic information, some areas of medical practice are incorporating genetic information more rapidly then others. Specifically, oncology is an area at the forefront of genetic testing as the diseases are often life threatening and therapeutic interventions are increasingly being shown to have very different outcomes in different genetic subpopulations. As the price of genetic sequencing continues to fall we expect Complete Genomics' service to be well positioned to participate in the clinical sequencing market.

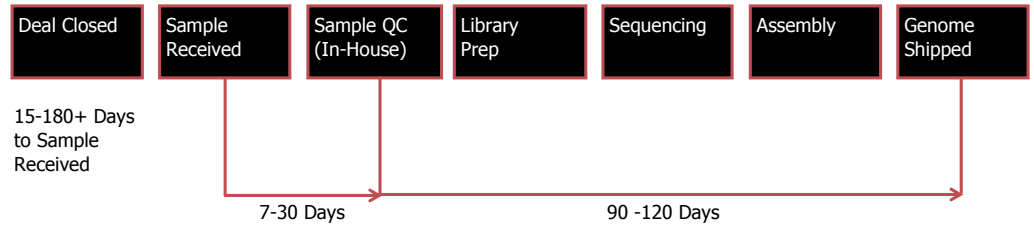
In 2012 the NCI projects that 14.5MM people will be alive with cancer, including 1.7MM new diagnoses that year. Assuming that 5% of those patients were sequenced twice (once for tumor tissue and once for normal tissue comparison) 1.4MM samples would be sequenced in 2012. Assuming only $3,000 per sample, at only 5% market penetration in oncology only, this could be a $4-5B market as soon as 2012. Given the growth rate of cancer diagnoses is between 5-10% a year, patients may ultimately be sequenced more then once over the course of treatment, and penetration is likely to far exceed 5% of cases in out years the potential for this market is tremendous.

Business Overview

Business Model

Complete Genomics is an "end-to-end" whole human genome sequencing service for the life science research and clinical markets. For a current price of less then $10,000 per sample (expected to drop 25-35% per year over the next several years) Complete Genomics will take customer samples in house, process and validate them, sequence the samples to consensus at high quality >30x coverage, analyze the data, and return the results to the customer in the company's custom software package. The current turnaround time of approximately 90 days is comparable to turnaround for "major center" genomics research, and is expected to decline to 60 days over time. The cost and turnaround time are comparable or below traditional genomic sequencing, and the service requires no upfront investment in infrastructure or instrumentation by the researcher.

Complete Genomics Workflow



Source: Company reports and Cowen and Company.

Complete Genomics Service Offering Overview

Complete Genomics' solution combines proprietary sequencing technology, which achieves accuracy levels of 99.999%, with advanced informatics and data management software and an end-to-end service model to deliver research-ready genomic data at a total cost that is significantly less than the total cost of purchasing and operating commercially available DNA sequencing instruments.

Complete Genomics Sequencing Service Offering

Cost Per Genome	About $10,000 (today)
Step 1	Researcher sends DNA samples to Complete Genomics
Step 2	Complete Genomics performs library prep, sequencing, assembly, and analysis
Step 3	Complete Genomics uploads research-ready data to Amazon for delivery to customers; desktop analysis

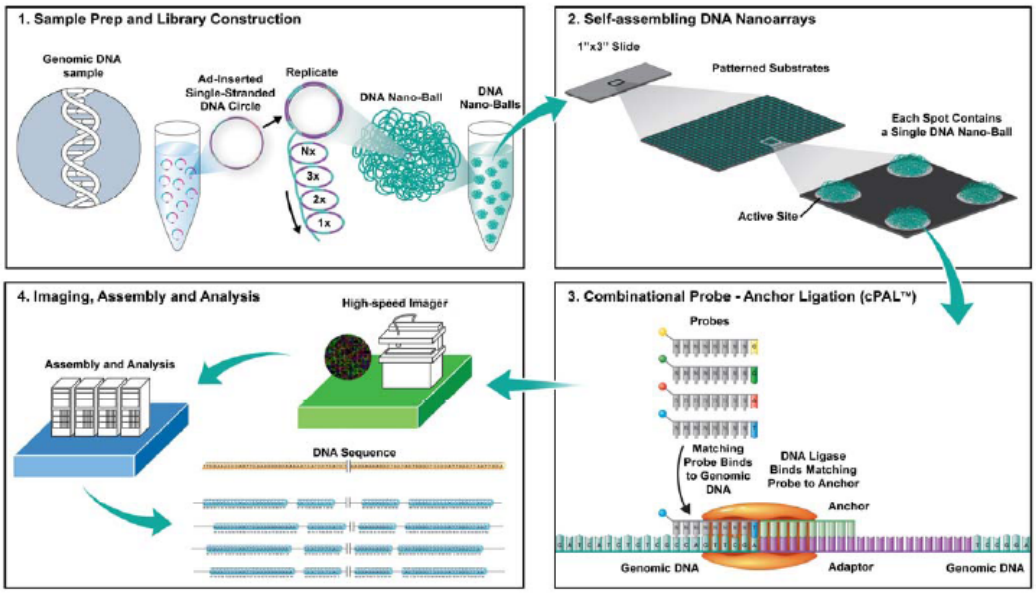
Source: Company reports and Cowen and Company.

Technology Background

Proprietary Platform Positioned for Cost and Scale Leverage

Complete Genomics, unlike other sequencing service providers such as Qiagen and Beckman Coulter, has developed its own proprietary in house technology platform for DNA sequencing analysis. The potential advantages of this approach are that Complete Genomics can optimize and refine its own system within its internal workflow. This should allow the company to reduce cost and maximize throughput. In addition, the company can pursue bulk reagent purchasing agreements and leverage scale of the facility to minimize variable costs over time. Thus far, the system has been demonstrated to be accurate, and has been validate by company sponsored and independent publications. Our recent checks with genetic researchers demonstrate that there is little concern about Complete Genomics' accuracy; peer reviewed publications have been affirming. One critical aspect of Complete Genomics' service offering is their data analysis/bioinformatic platform, by providing annotated results in an easy to use and pre analyzed format, Complete is offering customers a solution to the bioinformatic challenges that face any sequencing project. The company believes that over time the value of this part of the offering will eclipse the reduction in sequencing costs per sample.

Complete Genomics Analysis Platform



Source: Company reports.

Technology Description - Complete Genomics has developed an in house DNA sequencing platform known as the CGA platform (Complete Genomic Analysis Platform). Complete Genomics' patent protected platform generates DNA Nanoballs from customer samples that are adhered to their novel DNB arrays. The company incorporates a novel combinatorial probe-anchor ligation technology (cPAL) which ligates nucleotide probes to sample DNA strands. These probes are then read using a highs speed 4 color imaging system to determine the DNA sequence.

Platform Specifications

	Substrate Pattern	Substrate Registration	Pixels per measurement	Camera (pixel/ s)	Number of Cameras	Efficiency	Throughput per Day(bases)
Complete Genomic	Coded 2D array	Coherent Demodulation	2 (8 per Base)	30M	2	30%	180G
Competition	Random Array	Pattern Recognition	25 (100 per Base)	20M	4	36%	25G

Source: Company reports and Cowen and Company estimates.

Similar to other ligation based next generation sequencing technologies, the system is inherently scalable and utilizes high coverage to generate consensus sequence from smaller DNA fragment reads. Specifically, the company believes that over time its coded 2D array, coherent demodulation substrate recognition, faster camera, and 2 pixel detection capability will enable them to surpass other ligation based next generation sequencing platform on both cost and throughput (current in house reagent cost already <$2,000 per sample).

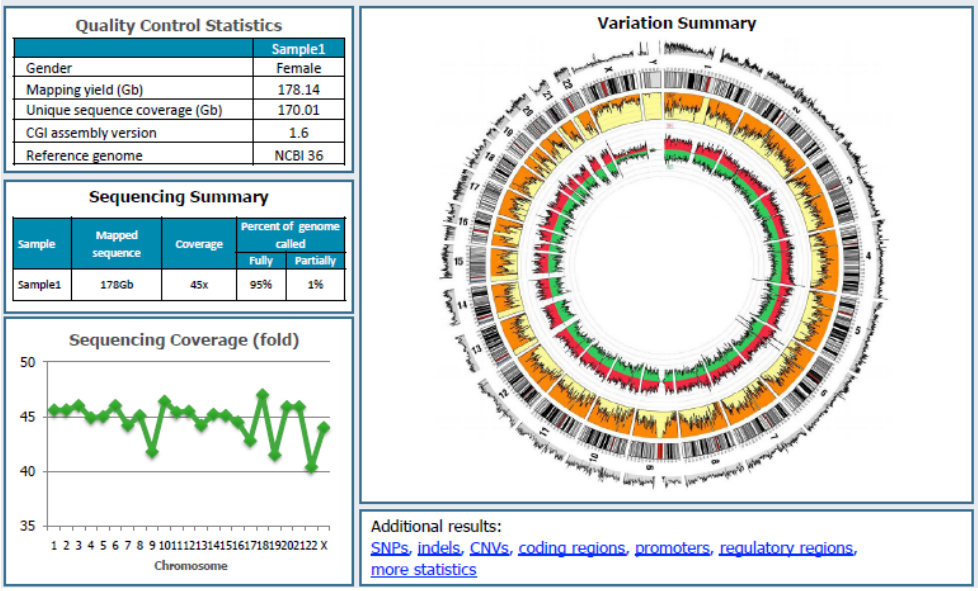
Sequencing Performance Characteristics

	Accuracy	Cost /Scale
Unchained Ligase Reads	99.97% Raw Reads and >99.999% Assembled (*Science* , Jan 2010)	•5-10x Less Reagents •Standard Low Cost Reagents: <$2,000 in 2009 (*Science*)
Patterned DNA Nano-Arrays	No Errors Inherent in Single Molecule Assays	•High Density of 200nm DNBs: 3-5x Less Reagents •5-10x More Bases Per Image: High Capacity Instruments;
Long Fragment Reads	Clinical Accuracy (99.99999%)	Genome Sequencing from Micro Biopsies (<50 Cells)

Source: Company reports and Cowen and Company estimates.

Sequencing Accuracy – Accuracy is increasingly becoming the critical issue in DNA sequencing, and this trend is likely to only intensify as sequencing enters the clinical setting. Complete Genomics has published a raw read accuracy rate of 99.97%, and a >99.999% assembled sequence accuracy. While the raw read accuracy is a bit below competitors, the company has overcome this by increasing coverage >30x for each sample. Our recent checks with researchers indicate that sentiment has continued a positive trend relating to Complete Genomics' accuracy following publications this year. Furthermore, the company believes it has the capability to make several technological upgrades to improve accuracy on the current platform.

Bioinformatic/Data Analysis Package



Source: Company reports.

Data Analysis/Software - Complete Genomics has built a genomics data processing facility with computing infrastructure that utilizes cloud computing and leverages strong internal bioinformatics and software expertise. Their proprietary assembly software uses advanced data analysis algorithms and statistical modeling techniques to accurately reconstruct the complete human genome. After assembling the genomic data, they use analysis software to identify and annotate key differences, or variants, in each genome. Detected variants include SNPs, indels, substitutions, Copy Number Variants (CNVs), and Structural Variants (SVs). By using Complete Genomics' analytical tools and data management software, customers can significantly reduce their investments in computing infrastructure. As the reagent cost of sequencing declines, the company believes that the cost and complexity of data analysis and management will emerge as the primary limiting factor for conducting complete human genome analysis. This could give them an advantage in the developing market as a well established data analysis platform will make there service more attractive.

Current Customers

As of Q3:10 the company had sequenced between 300-400 whole human genomes and had a backlog of nearly 1,000 genomes. While the size per order varies, the company has engaged with over 30 unique customers, including several which have been repeat customers.

Customer List

The list of customers includes: Academic Medical Center University of Amsterdam, Brigham & Woman's Hospital, Broad Institute of MIT and Harvard, Children's Hospital of Philadelphia, Eli Lilly and Company, Erasmus Medical Centre in Rotterdam, the Netherlands, Flanders Institute for Biotechnology, Genentech Inc, HudsonAlpha Institute for Biotechnology, Institute of Molecular Medicine at the University of Texas Health Science Center at Houston, Institute of Systems Biology, Ontario Institute for cancer Research, Pfizer Inc, SAIC-Frederick Inc – NCI, University of North Carolina, and the University of Texas Southwestern Medical Center. Studies have ranged from cancer studies to orphan disease research. However, the range of customers at this early stage is a good indication of the appetite for demand in the marketplace. It will be important for the company to both expand study sizes within exist clients as well as add additional clients.

Large NCI Sequencing Contract Announced

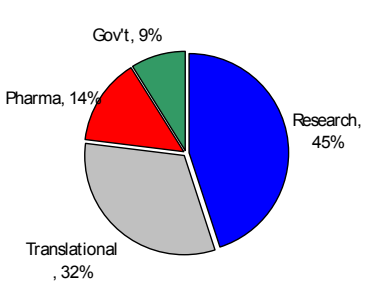
On September 7, Complete Genomics announced a collaboration with the National Cancer Institute to sequence 100 samples as part of the pediatric cancer TARGET study. The company will be paid $1.1MM for completion of this project which is expected to be completed in Q1:11-Q2:11. Upon successful completion of the project the NCI may exercise an option to sequence an additional 1,000 samples over an 18 month period.

Revenue Mix By End-Market. In H1:2010, 45% of sales were generated from Academic Research, 32% from Translational Research, 14% from Pharmaceutical companies, and the remaining 9% from Government Projects.

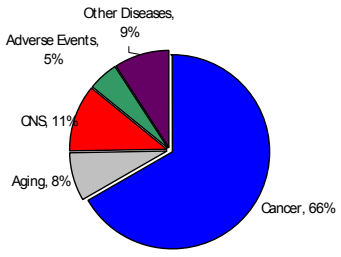
Revenues By Disease Area. In H1:2010, 66% of sales were generated from cancer patient samples, 8% from aging related disorders, 11% from CNS disorders, 5% from Adverse Events, and 9% from other diseases.

2010 Percentage Of Sales Analysis

End Market



Samples By Disease



Source: Company reports and Cowen and Company estimates.

Key Scientific Publications

Several studies utilizing Complete Genomics' generated data have been published in peer reviewed journals. These studies affirm the quality of the service, justifying both the technical approach and medical importance of the Complete Genomics service were published. Publication of these studies has been pointed to as a key to early adoption of the service, and further studies in 2011 should enhance the perception and relevance of Complete Genomics' sequencing service.

Key Publications

SAIC-Frederick, Inc., National Cancer Institute — Pediatric Cancer Study

The project with SAIC-Frederick, Inc., the prime contractor for the National Cancer Institute's research and development facility in Frederick, Maryland, involves sequencing and analyzing 50 tumor-normal pairs, or 100 complete human genomes, over a six-month period, to identify patterns relating to the genesis of cancerous tumors. This study may potentially lead to improved diagnosis and treatment of pediatric cancers. This project forms part of the National Cancer Institute's Therapeutically Applicable Research to Generate Effective Treatments, or TARGET, Initiative. TARGET seeks to use genomic technologies to rapidly identify valid therapeutic targets in childhood cancers so that new, more effective treatments can be developed. It is currently focusing on five childhood cancers: acute lymphoblastic leukemia, acute myeloid leukemia, neuroblastoma, osteosarcoma and Wilms tumor. The contract with SAIC-Frederick contains an option for SAIC-Frederick to engage Complete Genomics to sequence 564 additional cancer cases, or 1,128 complete human genomes, over an additional 18-month period.

Institute for Systems Biology — Miller Syndrome Study

The project with Dr. Leroy Hood of the ISB involved sequencing the complete genomes of a four-member nuclear family, including two healthy parents and their two children who suffer from two genetic disorders: Miller Syndrome and primary ciliary dyskinesia. The data allowed ISB researchers to pinpoint the causal gene and subsequently confirm that gene's role in Miller Syndrome, a disease in which the genetic basis had evaded detection. The results were published in Science Express in March 2010 and have led to a follow-on project with the ISB to sequence an additional 122 genomes.

Genentech, Inc. — Non-Small Cell Lung Cancer Study

The project with Genentech, Inc. (a member of the Roche Group) compared the complete human genome sequences of a primary non-small cell lung tumor with nearby non-tumor tissue taken from the lung of a long-term smoker. This project was the first complete human genome sequence of a primary non-small cell lung tumor and matched normal tissue. Comparison of these sequences revealed both known (KRAS G12C) and novel mutations in numerous oncogenes and led to the discovery of numerous somatic mutations. The data allowed Genentech to measure the rate of smoking-induced mutations accumulated over time and resulted in a publication in Nature in May 2010.

Competitive Overview

Service Providers

Complete Genomics' service competes with other sequencing services, next generation sequencing instrument manufacturers, and with major genetic research centers which act as collaborators to researchers by providing sequencing capabilities. The primary service competitor at this time is *Illumina's* Genome Network which provides whole genome sequencing through it's network of qualified labs. Other service offerings such as *Beckman Coulter (Formerly Agencourt Biosciences), DNA Technologies, Macrogen, Bionexus, TGEN, 454 DNA Sequencing Core (Roche), Qiagen, Seqwright, Lark Technologies,* and others outside the US provide a variety of DNA sequencing services. However, none specialize in whole human genomes, and the majority do not incorporate bioinformatics and data analysis into their offering. Furthermore, with an in-house reagent cost below $500 and a self developed instrument Complete is in unique position to leverage their in house process better the providers who rely on instrument manufacturers for equipment.

Instrument Providers

The primary non-service competition will come from the sequencing instrumentation companies including Illumina, Life Technologies, 454 Life Sciences (Roche), Pacific Biosciences, and others. While not directly competing, researchers will likely be deciding between internal investment in instrumentation and outsourcing of sequencing. Additionally, many of the large genomic centers, such as the Broad Institute at MIT, which have large instrument installed bases, currently serve in a collaborative roll with researchers at multiple of institutions by carrying out sequencing services. The world's largest genomics center, the Beijing Genetics Institute (BGI), is openly pursuing collaborative projects in genomics internationally.

3rd Generation Sequencing Technology

Several sequencing technologies are under development which have the potential to dramatically lower the cost per sample as well as the instrumentation cost associated with sequencing. Pacific Biosciences and Life Technologies/Ion Torrent recently launched new systems. Unproven instruments from PacBio, Oxford Nanopore, Avantome, Nabsys, GnuBio, and others have the potential to impact the sequencing market over time.

Clinical Diagnostic Market

Over the next several years whole genome sequencing is expected to make the leap from the lab bench into the clinical setting. Although, regulatory hurdles exist at this time, Complete Genomics has indicated that it will participate in this market. Additional competitors are likely to emerge in this setting including potentially Labcorp, Quest Diagnostics, Genomic Health, 23andMe, and others.

Company Management

The Complete Genomics management team is composed of executives with broad industry experience in Life Sciences, Biotech and Software industries.

Cliff Reid Ph.D., Chief Executive Officer & President. Dr. Reid has served as President, Chief Executive Officer and Chairman since July 2005 and as a member on the board of directors since July 2005. From March 2003 to September 2005, Dr. Reid was Vice President of Collaborative Solutions at Open Text Corporation, a software company. In 1995, Dr. Reid co-founded Eloquent, Inc., a digital video communications company, and served as its Chief Executive Officer until 1999 and as its Chairman until 2003, when it was acquired by Open Text. In 1988, Dr. Reid co-founded Verity, Inc., an enterprise text search engine company, and served as its Vice President of Engineering from 1988 to 1992 and as its Executive Vice President from 1992 to 1993.

Ajay Bansal, Chief Financial Officer. Mr. Bansal has served as Chief Financial Officer since May 2010. From June 2009 to January 2010, Mr. Bansal served as Chief Financial Officer and Executive Vice President of Business Development at Lexicon Pharmaceuticals, Inc., a biopharmaceutical company. From December 2007 to October 2008, Mr. Bansal served as Chief Financial Officer and Executive Vice President of Finance of Tercica, Inc., a biopharmaceutical company acquired by the Ipsen Group in October 2008. He also served as Chief Financial Officer and Senior Vice President of Finance of Tercica from March 2006 until December 2007. From February 2003 to January 2006, Mr. Bansal served as Vice Present of Finance and Administration and Chief Financial Officer of Nektar Therapeutics, a biopharmaceutical company.

Radoje Drmanac Ph.D., Chief Scientific Officer. Dr. Drmanac is a co-founder and has served as Chief Scientific Officer since July 2005. In 2001, Dr. Drmanac co-founded Callida Genomics, Inc., a DNA sequencing company, and served as Callida's Chief Scientific Officer from 2001 to 2004 and has served as its President since 2004. In 1994, Dr. Drmanac co-founded Hyseq, Inc., a DNA array technology company that became Hyseq Pharmaceuticals, Inc. and later merged with Variagenics, Inc. to become Nuvelo, Inc., and served as its Senior Vice President of Research from 1994 to 1998 and as its Chief Scientific Officer from 1998 to 2001. Prior to that, Dr. Drmanac served as a group leader at Argonne National Laboratory.

Summary Financial Projections

Revenue Forecast

We are currently projecting that the company will generate $8.7MM in revenue in 2010, $34MM (+291% Y/Y) in 2011, $75MM (+120% Y/Y) in 2012, and $135MM (+80% Y/Y) in 2013. To reach these revenues we assume that the company sequences and ships 719 genomes in 2010, 4,555 (+534%) in 2011, 16,660 (+266%) in 2012, and 54,250 (+166%) in 2013.

We are also assuming that ASP per genome drops over time from $12,100 per genome in 2010, to $7,500 in 2011, $4,500 in 2012, and $3,100 in 2013. While the company will have to hit certain internal productivity and capacity requirements to meet these expectations, we believe given the underlying demand they could prove conservative over time. We note that the company typically recognizes revenue once a genome has been shipped, however the lone exception to this is the 100 sample NCI order that is set to ship at some point in Q1:11, this contract allows for a 60 day lag in payment and we are currently modeling revenue benefit from this order in Q2:11.

Complete Genomics – Revenue, Volume, and Pricing Projections ($MM)

	Q1:10	Q2:10	Q3:10	Q4:10	Q1:11	Q2:11	Q3:11	Q4:11	Q1:12	Q2:12	Q3:12	Q4:12	2010	2011	2012	2013	2014	2015	5-yr CAGR
REVENUES	$0.3	$1.1	$4.2	$3.1	$4.7	$6.4	$9.9	$13.0	$12.9	$14.8	$22.8	$24.5	$8.7	$34.0	$75.0	$135.0	$150.0	$165.0	80.1%
Growth					1303%	490%	137%	321%	174%	131%	130%	89%		291%	120%	80%	11%	10%	
Genomes Shipped	11	83	350	275	523	802	1,325	1,905	2,165	3,025	5,070	6,400	719	4,555	16,660	44,310	70,500	104,250	170.6%
ASP/Period	$30.5	$13.1	$12.0	$11.2	$9.0	$8.0	$7.5	$6.8	$6.0	$4.9	$4.5	$3.8	$12.1	$7.5	$4.5	$3.0	$2.1	$1.6	-33.4%
														-38%	-40%	-32%	-30%	-26%	
SALES PIPELINE (Sales Productivity & Demand)																			
Value of Deals Closed (MM)			$3.6	$4.4	$9.4	$12.2	$11.9	$12.3	$21.4	$21.0	$28.2	$27.7	$8.0	$45.8	$98.3	$140.2	$148.3	$172.3	84.8%
Deals Closed: # of Genomes			400	550	1,250	1,800	2,000	2,500	4,750	5,500	8,000	8,750	950	7,550	27,000	54,250	81,500	119,000	162.8%
Growth							*400%*	*355%*	*275%*	*200%*	*300%*	*250%*		*695%*	*258%*	*101%*	*50%*	*46%*	
ASP (1,000s)			$9.0	$8.0	$7.5	$6.8	$6.0	$4.9	$4.5	$3.8	$3.5	$3.2	$8.4	$6.1	$3.6	$2.6	$1.8	$1.4	-29.7%
Growth							*-34%*	*-39%*	*-40%*	*-44%*	*-41%*	*-35%*		*-28%*	*-40%*	*-29%*	*-30%*	*-20%*	

Source: Cowen and Company estimates.

P&L Forecast

Summary Annual Profit & Loss Statement Forecast

$MM, except per share data	2009	2010E	2011E	2012E	2013E	2014E	2015E	4-yr CAGR
Revenues	$0.6	$8.7	$34.0	$75.0	$135.0	$150.0	$165.0	80.3%
COGS	5.1	19.6	31.9	40.7	60.8	64.5	66.0	27.5%
Gross profit	-$4.5	-$10.9	$2.2	$34.3	$74.3	$85.5	$99.0	NM
Sales & Marketing	1.8	7.2	15.1	17.8	20.0	22.0	23.7	26.9%
General & Administrative	5.0	8.3	9.9	10.4	11.2	12.0	12.7	8.9%
Research & Development	22.4	24.0	26.0	28.1	30.0	31.8	33.4	6.9%
Operating Profit	-$33.7	-$50.5	-$48.9	-$21.9	13.0	19.7	29.1	
Other Expense (Income)	0.0	8.8	0.0	0.0	0.0	0.0	0.0	
Interest Expense (Income)	0.0	1.0	0.1	0.0	0.0	0.0	0.0	
Pre-Tax Income	-$33.7	-$60.3	-$49.0	-$21.9	$13.0	$19.7	$29.1	
Taxes	0.0	0.0	0.0	0.0	3.9	6.9	10.2	
Net Income	-$33.7	-$60.3	-$49.0	-$21.9	$9.1	$12.8	$18.9	
EPS		-$2.33	-$1.89	-$0.85	$0.38	$0.53	$0.79	
Share Count		25.9	25.9	25.9	24.0	24.0	24.0	
Margin Analysis:								
Gross Profit		-126.3%	6.3%	45.7%	55.0%	57.0%	60.0%	
Sales and Marketing		83.3%	44.4%	23.7%	14.8%	14.6%	14.4%	
General & Administrative		95.9%	29.1%	13.8%	8.3%	8.0%	7.7%	
Research & Development		276.9%	76.4%	37.4%	22.3%	21.2%	20.3%	
Operating margin		-582.4%	-143.6%	-29.3%	9.7%	13.1%	17.7%	
Tax Rate		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Net Income		-696.0%	-144.0%	-29.3%	6.8%	8.5%	11.5%	
Growth Analysis:								
Revenue		NM	293%	120%	80%	11%	10%	
Gross Profit		NM	NM	NM	117%	15%	16%	
Sales & Marketing		302%	109%	17%	12%	10%	8%	
General & Administrative		68%	19%	5%	8%	7%	6%	
Research & Development		7.0%	8.4%	8.0%	7%	6%	5%	
Operating Income		NM	NM	NM	NM	51%	48%	
Income Taxes		NA	NA	NA	30%	35%	35%	
Net Income		NM	NM	NM	NM	41%	48%	
Earnings Per Share		NM	NM	NM	NM	41%	48%	

Source: Company reports and Cowen and Company estimates.

Key P&L Forecast Assumptions

Cost of Goods Sold – Complete Genomics is currently operating at a negative gross margin due to the high fixed cost base associated with its sequencing facility and instrumentation. As sales volume ramps over the next several years the company expects to approach a 60% gross margin. The margin on the sequencing reagents and consumables is high and we expect the company will be able to carryout bulk purchasing, and optimize workflows to reduce cost over time. We anticipate >6% gross margin in 2011, reflecting the H2:11 expansion of sequencing instrumentation.

Research & Development – At this stage, the company has a high proportional R&D expense as it continues to develop and optimize its in house sequencing instrumentation. While R&D investment is expected to grow in dollar terms in the high single digits over the next several years, it is expected to drop to 15-20% of sales in out years. While their sequencing system will continue to be innovated in-

house over the next several years, the company does not need to develop new generation instruments for commercial launch, but rather update existing technology and processes. Other areas of development include RNA analysis, and amplification technology.

Sales & Marketing, General & Administrative – Complete Genomics is in the process of rapidly expanding its global sales force, and is expected to continue to do so over the next 2 years. Total SG&A is expected to exceed 40% of sales in 2011; we expect that SG&A should fall below 15% of sales in out years. As sales quotas are established and rep productivity targets become clearer we expect updated project for SG&A targets.

Operating Income – We are currently modeling operational break even by the end of 2012. The company has indicated that they will be operational breakeven at a quarterly run rate of $25MM in revenue per quarter. This estimate includes expected capacity expansion.

Non-Operating Items and Taxes – We assume that the company will not pay any taxes given NOL's until 2012.

Share Count – Current share count is set at the IPO level of 25.9M shares.

Valuation

Our assessment of Complete Genomics' valuation is based on comparable company and discounted cash flow analyses. While the shares have depreciated 13% since the IPO and are now trading in line relative to the life science tools peer group on an EV/Revenue basis despite a targeted growth rate that far exceeds comparable life science tools companies. Our analysis suggests that GNOM is positioned to outperform the market by 15% over the next 12-18 months.

Comparable Company Analysis

Complete Genomics lacks a true comparable; it is a life science tool company that is exposed to the same high growth end markets as ILMN and LIFE. However, Complete Genomics is technically a research service business similar to a CRO such as CRL or CVD, but does not serve the same drug development needs as CRO comparables. The company is not expected to be EBITDA positive until 2012, or generate positive EPS until 2014. On an EV/Revenue basis the company trades in line with the Tools comp group despite a premium growth rate (194% CAGR expected '10-'12).

Comparable Company Valuation Analysis

Company	Ticker	Rating	Price 12/20/10	12 Month High - Low	Ent. Val. ($MM)	Mkt. Cap ($MM)	Net Cash/ Share	'10/'12 Rev CAGR	'10/'12 EPS CAGR	MV/ Calendar Revenue 2010E	2011E	2012E	EV/ Calendar Revenue 2010E	2011E	2012E	EV/ EBITDA 2010E	2011E	2012E	Calendar P/E 2010E	2011E	2012E
Contract Research Organizations																					
Charles River Labs	CRL	Neutral	$35	$42 - $27	$2,598	$2,031	-$9.82	1.6%	20.7%	1.8x	1.8x	1.7x	2.3x	2.3x	2.2x	11.0x	9.9x	9.1x	18.6x	15.1x	12.8x
Covance	CVD	--	$51	$64 - $37	$2,946	$3,335	$6.00	6.3%	25.0%	1.7x	1.6x	1.5x	1.5x	1.4x	1.4x	10.3x	8.7x	7.9x	24.2x	18.2x	15.5x
Parexel International	PRXL	--	$21	$26 - $13	$1,439	$1,229	-$3.61	11.8%	20.0%	1.0x	0.9x	0.8x	1.1x	1.0x	0.9x	7.6x	6.7x	5.9x	16.8x	13.8x	11.7x
ICON	ICLR	--	$22	$30 - $19	$953	$1,307	#N/A	7.9%	10.4%	1.5x	1.4x	1.3x	1.1x	1.0x	0.9x	7.4x	6.6x	5.6x	15.0x	14.5x	12.3x
Kendle International	KNDL	--	$11	$22 - $8	$275	$160	-$7.68	1.6%	35.2%	0.5x	0.5x	0.5x	0.8x	0.8x	0.8x	9.0x	7.1x	6.8x	32.8x	18.9x	18.0x
Pharmaceutical Prod Dvpt	PPDI	--	$27	$28 - $20	$2,597	$3,152	$4.67	9.5%	29.1%	2.3x	2.1x	1.9x	1.9x	1.7x	1.6x	10.3x	7.8x	6.8x	25.7x	17.9x	15.4x

CROs	MV/ Calendar Revenue 2010E	2011E	2012E	EV/ Calendar Revenue 2010E	2011E	2012E	EV/ EBITDA 2010E	2011E	2012E	Calendar P/E 2010E	2011E	2012E
Mean	1.5x	1.4x	1.3x	1.5x	1.4x	1.3x	9.3x	7.8x	7.0x	22.2x	16.4x	14.3x
Median	1.6x	1.5x	1.4x	1.3x	1.2x	1.1x	9.7x	7.5x	6.8x	21.4x	16.5x	14.1x
High	2.3x	2.1x	1.9x	2.3x	2.3x	2.2x	11.0x	9.9x	9.1x	32.8x	18.9x	18.0x
Low	0.5x	0.5x	0.5x	0.8x	0.8x	0.8x	7.4x	6.6x	5.6x	15.0x	13.8x	11.7x

Life Science Tools																					
Illumina	ILMN	Outperform	$64	$67 - $27	$7,530	$8,030	$4.00	18.9%	30.5%	9.0x	7.4x	6.4x	8.5x	7.0x	6.0x	30.8x	23.5x	18.5x	60.4x	44.7x	35.4x
Luminex	LMNX	Neutral	$19	$20 - $13	$702	$806	$2.46	21.0%	144.7%	5.8x	4.8x	4.0x	5.1x	4.2x	3.5x	33.0x	22.3x	14.2x	202.7x	62.1x	33.8x
Life Technologies	LIFE	Outperform	$55	$57 - $41	$12,016	$10,292	-$9.23	6.0%	9.9%	2.9x	2.7x	2.6x	3.3x	3.2x	3.0x	10.5x	9.3x	8.6x	15.7x	14.3x	13.0x
Sigma Aldrich	SIAL	--	$67	$67 - $47	$8,047	$8,085	$0.31	5.5%	8.5%	3.6x	3.3x	3.2x	3.5x	3.3x	3.2x	11.9x	11.1x	10.4x	20.4x	18.8x	17.4x
QIAGEN	QGEN	Outperform	$19	$24 - $17	$4,511	$4,501	-$0.04	10.4%	15.0%	4.1x	3.7x	3.4x	4.1x	3.7x	3.4x	13.0x	11.3x	9.9x	23.1x	20.1x	17.5x

LSTools	MV/ Calendar Revenue 2010E	2011E	2012E	EV/ Calendar Revenue 2010E	2011E	2012E	EV/ EBITDA 2010E	2011E	2012E	Calendar P/E 2010E	2011E	2012E
Mean	5.1x	4.4x	3.9x	4.9x	4.3x	3.8x	19.8x	15.5x	12.3x	64.5x	32.0x	23.4x
Median	4.1x	3.7x	3.4x	4.1x	3.7x	3.4x	13.0x	11.3x	10.4x	23.1x	20.1x	17.5x
High	9.0x	7.4x	6.4x	8.5x	7.0x	6.0x	33.0x	23.5x	18.5x	202.7x	62.1x	35.4x
Low	2.9x	2.7x	2.6x	3.3x	3.2x	3.0x	10.5x	9.3x	8.6x	15.7x	14.3x	13.0x

Blended	MV/ Calendar Revenue 2010E	2011E	2012E	EV/ Calendar Revenue 2010E	2011E	2012E	EV/ EBITDA 2010E	2011E	2012E	Calendar P/E 2010E	2011E	2012E
Mean	3.1x	2.8x	2.5x	3.0x	2.7x	2.4x	14.1x	11.3x	9.4x	41.4x	23.5x	18.4x
Median	2.3x	2.1x	1.9x	2.3x	2.3x	2.2x	10.5x	9.3x	8.6x	23.1x	18.2x	15.5x
High	9.0x	7.4x	6.4x	8.5x	7.0x	6.0x	33.0x	23.5x	18.5x	202.7x	62.1x	35.4x
Low	0.5x	0.5x	0.5x	0.8x	0.8x	0.8x	7.4x	6.6x	5.6x	15.0x	13.8x	11.7x

Complete Genomic	GNOM	Outperform	$7	$9 - $7	$156	$162	$0.25	194.2%	-39.7%	18.7x	4.8x	2.2x	18.0x	4.6x	2.1x	NM	NM	NM	NM	NM	NM

Source: Cowen and Company, Company reports, and ThomsonOne

EV-to-Revenue: Complete Genomics shares currently trade at 2.1x our 2012 EV-Revenue estimate. This is about in line to the blended CRO/LST multiple of 2.4x. However, it is a discount to the LS tools comp group multiple of 3.8x. Given a premium growth rate to these companies we expect shares to appreciate over the next 12-18 months.

DCF Suggests Shares Positioned For Significant Upside

While DCF projections are based largely on revenue projections and unproven operational performance, it is demonstrative of the potential cash flow generation of this business model over time. We assume a 30% tax rate after 2012 and expect CapEx to remain below 20% of sales in out years, and depreciation and amortization below 10% of sales in out years.

Summary Discounted Cash Flow Analysis

DCF VALUATION	
Enterprise Value	**$362**
Net Debt	($43)
Equity Value	**$404**
Shares Outsanding	24
EPS	**$17**
Current Value	**$7**
Upside/ (Downside)	**139.7%**

KEY ASSUMPTIONS	
Cost of Equity Assumptions:	
Beta	1.5
RFR	4.0%
Market Risk Premium	5.0%
Cost of Equity	11.5%
WACC Calculation:	
Debt/ Equity Ratio	28.6%
Tax Rate	0.0%
Cost of Debt	8.0%
WACC	10.5%

SUMMARY FORECAST	2010E	2011E	2012E	2013E	2014E	2015P	2016P	2017P	2018P	
Total Revenues	**$9**	**$35**	**$80**	**$145**	**$160**	**$224**	**$302**	**$393**	**$491**	
growth (Y/Y)	1296.9%	307.7%	125.6%	81.2%	10.3%	40.0%	35.0%	30.0%	25.0%	
Cost of Goods Sold	$20	$32	$41	$65	$69	$96	$129	$167	$207	
Gross Profit	**($11)**	**$4**	**$39**	**$80**	**$91**	**$128**	**$174**	**$226**	**$284**	
Gross Margin	-128.3%	10.1%	48.7%	55.0%	57.0%	57.2%	57.4%	57.6%	57.8%	
Research & Developmemt	$26	$26	$28	$30	$32	$44	$60	$77	$96	
% of sales	297.6%	73.3%	35.1%	20.7%	19.9%	19.8%	19.7%	19.6%	19.5%	
Sales, General & Administrative	$16	$25	$28	$31	$34	$47	$64	$82	$102	
% of sales	186.2%	70.5%	35.1%	21.5%	21.2%	21.1%	21.0%	20.9%	20.8%	
Operating Income	**($53)**	**($47)**	**($17)**	**$19**	**$25**	**$36**	**$50**	**$67**	**$86**	
Operating Margin	-612.1%	-133.7%	-21.5%	12.8%	15.9%	16.3%	16.7%	17.1%	17.5%	
NOPAT	**($53)**	**($47)**	**($17)**	**$11**	**$15**	**$22**	**$30**	**$40**	**$51**	
Tax Rate	0.0%	0.0%	0.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	
Adjustments:										
Capex	(16)	(19)	(20)	(25)	(28)	(30)	(33)	(37)	(40)	
Depreciation & Amortization	10	15	15	16	16	22	30	39	49	Terminal Value
Change In Working Capital	2	(1)	(8)	(7)	13	18	25	32	40	
Free Cash Flow	**($57)**	**($52)**	**($31)**	**($5)**	**$17**	**$32**	**$52**	**$75**	**$101**	**$958**

	2010E	2011E	2012P	2012P	2012P
ROIC	**-578.0%**	**-317.7%**	**-64.4%**	**22.6%**	**24.0%**
Invested Capital:					
Total Assets	**$100**	**$59**	**$120**	**$140**	**$157**
- Cash & Equivalents	61	8	54	44	46
- Non-interest bearing current liabilities	30	37	40	46	47
Capital	9	15	27	49	63
ROE	**-83.5%**	**-284.1%**	**-23.1%**	**12.7%**	**14.7%**
Du Pont Analysis:					
Margin (Net Income/ Sales)	-614.9%	-134.1%	-21.5%	8.9%	10.3%
Turnover (Sales/ Total Assets)	8.7%	60.1%	66.5%	103.9%	101.8%
Leverage (Total Assets/ Equity)	156.9%	353.3%	161.7%	159.6%	151.2%
Du Pont calculated ROE	**-83.9%**	**-285.0%**	**-23.1%**	**14.8%**	**15.9%**

Source: Cowen and Company

Complete Genomics – Quarterly Revenue Statement ($MM)

	Q1:10	Q2:10	Q3:10	Q4:10	Q1:11	Q2:11	Q3:11	Q4:11	Q1:12	Q2:12	Q3:12	Q4:12	2010	2011	2012	2013	2014	2015	5-yr CAGR
REVENUES	$0.3	$1.1	$4.2	$3.1	$4.7	$6.4	$9.9	$13.0	$12.9	$14.8	$22.8	$24.5	$8.7	$34.0	$75.0	$135.0	$150.0	$165.0	80.1%
Growth					1303%	490%	137%	321%	174%	131%	130%	89%		291%	120%	80%	11%	10%	
Genomes Shipped	11	83	350	275	523	802	1,325	1,905	2,165	3,025	5,070	6,400	719	4,555	16,660	44,310	70,500	104,250	170.6%
ASP/Period	$30.5	$13.1	$12.0	$11.2	$9.0	$8.0	$7.5	$6.8	$6.0	$4.9	$4.5	$3.8	$12.1	$7.5	$4.5	$3.0	$2.1	$1.6	-33.4%
														-38%	-40%	-32%	-30%	-26%	
IN HOUSE PIPELINE/ FLOW																			
Total Intra-Period WIP			719	949	1,309	2,174	3,439	4,309	5,524	8,659	12,124	15,279	1,299	6,884	25,539	59,989	92,859	136,144	
Beginning WIP			369	369	599	759	1,474	2,114	2,404	3,359	5,634	7,054	369	599	2,404	8,879	15,679	22,359	
Beginning Pre-WIP Pipeline			350	400	370	910	1,295	1,330	1,635	3,265	3,465	4,975	750	370	1,635	5,500	8,640	12,960	
New Orders				550	1,250	1,800	2,000	2,500	4,750	5,500	8,000	8,750	550	7,550	27,000	54,250	81,500	119,000	
Total Samples Passed QC			350	580	710	1,415	1,965	2,195	3,120	5,300	6,490	8,225	930	6,285	23,135	51,110	77,180	113,785	
Existing Pre-WIP orders passed QC				360	333	819	1,166	1,197	1,553	3,102	3,292	4,726		--	--	--	--	--	
% of beginning orders				90%	90%	90%	90%	90%	95%	95%	95%	95%							
New Orders passed QC				220	375	594	800	1,000	1,568	2,200	3,200	3,500		--	--	--	--	--	
% new orders passed QC				40%	30%	33%	40%	40%	33%	40%	40%	40%							
Ending WIP		369	369	599	759	1,474	2,114	2,404	3,359	5,634	7,054	8,879	599	2,404	8,879	15,679	22,359	31,894	
Samples Sequenced			350	350	550	700	1,325	1,905	2,165	3,025	5,070	6,400	700	4,480	16,660	44,310	70,500	104,250	
% of beginning WIP			95%	95%	92%	92%	90%	90%	90%	90%	90%	91%		*540%*	*272%*	*166%*	*59%*	*48%*	
SALES PIPELINE (Sales Productivity & Demand)																			
Value of Deals Closed (MM)			$3.6	$4.4	$9.4	$12.2	$11.9	$12.3	$21.4	$21.0	$28.2	$27.7	$8.0	$45.8	$98.3	$140.2	$148.3	$172.3	84.8%
Deals Closed: # of Genomes			400	550	1,250	1,800	2,000	2,500	4,750	5,500	8,000	8,750	950	7,550	27,000	54,250	81,500	119,000	162.8%
Growth							*400%*	*355%*	*275%*	*200%*	*300%*	*250%*		*695%*	*258%*	*101%*	*50%*	*46%*	
ASP (1,000s)			$9.0	$8.0	$7.5	$6.8	$6.0	$4.9	$4.5	$3.8	$3.5	$3.2	$8.4	$6.1	$3.6	$2.6	$1.8	$1.4	-29.7%
Growth							*-34%*	*-39%*	*-40%*	*-44%*	*-41%*	*-35%*		*-28%*	*-40%*	*-29%*	*-30%*	*-20%*	
ORDER PIPELINE (pre-WIP genomes)																			
Value of Order Pipeline			$3.6	$3.0	$6.8	$8.8	$7.9	$8.0	$14.7	$13.3	$17.5	$17.4		$10.3	$20.6	$22.5	$23.7	$26.3	
Beginning Closed Orders, pre-WIP			350	400	370	910	1,295	1,330	1,635	3,265	3,465	4,975		370	1,635	5,500	8,640	12,960	
New Orders			400	550	1,250	1,800	2,000	2,500	4,750	5,500	8,000	8,750		7,550	27,000	54,250	81,500	119,000	
Less: Genomes Passed QC (now in WIP)			(350)	(580)	(710)	(1,415)	(1,965)	(2,195)	(3,120)	(5,300)	(6,490)	(8,225)		(6,285)	(23,135)	(51,110)	(77,180)	(113,785)	
Ending Closed Orders		350	400	370	910	1,295	1,330	1,635	3,265	3,465	4,975	5,500		1,635	5,500	8,640	12,960	18,175	
ASP on Order pipeline			$9.0	$8.0	$7.5	$6.8	$6.0	$4.9	$4.5	$3.8	$3.5	$3.2		$6.3	$3.8	$2.6	$1.8	$1.4	
Total Backlog (WIP + Orders Pipeline)			769	969	1,669	2,769	3,444	4,039	6,624	9,099	12,029	14,379		4,039	14,379	24,319	35,319	50,069	
Productivity:																			
Sequencers Installed			16	18	18	18	30	30	31	35	40	55	17	24	40	85	119	130	50.2%
Genomes Per Day			0.5	0.8	1	1.2	1.3	1.7	1.7	1.7	1.7	1.7	0.7	1.3	1.7	2.0	2.4	2.8	33.4%
Installed Capacity: Genomes per period			720	1,296	1,620	1,944	3,510	4,590	4,743	5,355	6,120	8,415	3,978	11,232	24,633	59,670	100,463	128,700	100.4%
Genomes Shipped			350	350	550	700	1,325	1,905	2,165	3,025	5,070	6,400	700	4,480	16,660	44,310	70,500	104,250	NM
Capacity Utilization			49%	27%	34%	36%	38%	42%	46%	56%	83%	76%	18%	40%	68%	74%	70%	81%	35.7%

Revenue not recorded on NCI shipments for 60 days; we are assuming that 75 Q4 and 28 Q1 genomes are not revenue recognized until Q2:11

Source: Company reports and Cowen and Company estimates.

Complete Genomics – Quarterly Income Statement ($MM)

$MM, except per share data	Q1:10	Q2:10	Q3:10	Q4:10	Q1:11	Q2:11	Q3:11	Q4:11	Q1:12	Q2:12	Q3:12	Q4:12	2009	2010E	2011E	2012E	2013E	2014E	2015E	4-yr CAGR
Revenues	$0.3	$1.1	$4.2	$3.1	$4.7	$6.4	$9.9	$13.0	$12.9	$14.8	$22.8	$24.5	$0.6	$8.7	$34.0	$75.0	$135.0	$150.0	$165.0	80.3%
COGS	3.2	3.6	6.0	6.8	6.4	7.4	9.3	8.7	7.7	9.1	11.6	12.3	5.1	19.6	31.9	40.7	60.8	64.5	66.0	27.5%
Gross profit	-$2.8	-$2.5	-$1.8	-$3.7	-$1.7	-$1.0	$0.6	$4.2	$5.2	$5.8	$11.2	$12.1	-$4.5	-$10.9	$2.2	$34.3	$74.3	$85.5	$99.0	NM
Sales & Marketing	1.3	1.3	1.6	3.0	3.2	3.5	4.0	4.3	4.3	4.5	4.5	4.5	1.8	7.2	15.1	17.8	20.0	22.0	23.7	26.9%
General & Administrative	2.0	1.7	2.3	2.3	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6	5.0	8.3	9.9	10.4	11.2	12.0	12.7	8.9%
Research & Development	6.1	6.5	5.0	6.4	6.5	6.5	6.5	6.5	7.2	6.8	7.0	7.2	22.4	24.0	26.0	28.1	30.0	31.8	33.4	6.9%
Operating Profit	-$12.3	-$12.0	-$10.7	-$15.5	-$13.8	-$13.5	-$12.4	-$9.1	-$8.8	-$8.1	-$2.8	-$2.1	-$33.7	-$50.5	-$48.9	-$21.9	13.0	19.7	29.1	
Other Expense (Income)	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	
Interest Expense (Income)	0.0	0.0	0.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	0.0	0.0	0.0	0.0	
Pre-Tax Income	-$12.3	-$12.0	-$20.5	-$15.6	-$13.9	-$13.5	-$12.4	-$9.1	-$8.8	-$8.1	-$2.8	-$2.1	-$33.7	-$60.3	-$49.0	-$21.9	$13.0	$19.7	$29.1	
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	6.9	10.2	
Net Income	-$12.3	-$12.0	-$20.5	-$15.6	-$13.9	-$13.5	-$12.4	-$9.1	-$8.8	-$8.1	-$2.8	-$2.1	-$33.7	-$60.3	-$49.0	-$21.9	$9.1	$12.8	$18.9	
EPS				-$0.60	-$0.54	-$0.52	-$0.48	-$0.35	-$0.34	-$0.31	-$0.11	-$0.08		-$2.33	-$1.89	-$0.85	$0.38	$0.53	$0.79	
Share Count				25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9		25.9	25.9	25.9	24.0	24.0	24.0	
Margin Analysis:																				
Gross Profit	-848%	-231%	-44%	-122%	-36.2%	-15.1%	6.2%	32.5%	40.1%	38.9%	49.1%	49.6%		-126.3%	6.3%	45.7%	55.0%	57.0%	60.0%	
Sales and Marketing	387%	121%	38%	98%	68.7%	54.6%	40.7%	33.4%	33.8%	30.1%	19.6%	18.3%		83.3%	44.4%	23.7%	14.8%	14.6%	14.4%	
General & Administrative	596%	154%	56%	75%	51.0%	39.0%	25.2%	19.3%	19.4%	17.7%	11.5%	10.7%		95.9%	29.1%	13.8%	8.3%	8.0%	7.7%	
Research & Development	1820%	599%	119%	208%	138.1%	101.3%	65.4%	50.2%	55.5%	46.0%	30.5%	29.2%		276.9%	76.4%	37.4%	22.3%	21.2%	20.3%	
Operating margin	-3651%	-1105%	-258%	-502%	-294.0%	-210.0%	-125.0%	-70.4%	-68.6%	-54.9%	-12.5%	-8.7%		-582.4%	-143.6%	-29.3%	9.7%	13.1%	17.7%	
Tax Rate	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Net Income	-3651%	-1105%	-492%	-506%	-295.6%	-210.7%	-125.2%	-70.4%	-68.6%	-54.9%	-12.5%	-8.7%		-696.0%	-144.0%	-29.3%	6.8%	8.5%	11.5%	
Growth Analysis:																				
Revenue	NM	NM	NM	394%	NM	490%	139%	321%	174%	131%	130%	89%		NM	293%	120%	80%	11%	10%	
Gross Profit	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	188%		NM	NM	NM	117%	15%	16%	
Sales & Marketing	205%	583%	335%	271%	149%	166%	154%	44%	34%	27%	11%	3%		302%	109%	17%	12%	10%	8%	
General & Administrative	54%	104%	72%	55%	20%	49%	7%	9%	20%	5%	5%	5%		68%	19%	5%	8%	7%	6%	
Research & Development	-9%	76%	-12%	1%	6%	0%	31%	1%	10%	5%	7%	10%		7.0%	8.4%	8.0%	7%	6%	5%	
Operating Income	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		NM	NM	NM	NM	51%	48%	
Income Taxes														NA	NA	NA	30%	35%	35%	
Net Income														NM	NM	NM	NM	41%	48%	
Earnings Per Share														NM	NM	NM	NM	41%	48%	

Source: Company reports and Cowen and Company estimates

Complete Genomics – Annual Balance Sheet Statement

$MM	2010	2011	2012	2013E	2014E
Assets					
Cash	$60.1	$56.0	$22.2	$10.2	$8.6
Accounts Recievable	2.5	10.4	17.8	30.0	33.3
Inventory	5.5	4.1	5.3	7.1	7.6
Other Current (incl Prepaids)	1.2	1.9	3.7	6.8	4.5
Current Assets	69.2	72.5	49.0	54.1	54.0
Property, Plant & Equipment	27.0	31.1	36.3	45.3	59.3
Other Assets	0.5	0.5	0.5	0.5	0.5
Total Assets	96.7	104.1	85.8	99.9	113.8
Liabilities					
Current Liabilities	25.2	31.7	35.3	40.3	41.4
Short Term Debt	13.5	10.2	10.2	10.2	10.2
Accounts Payable	5.5	8.7	12.3	17.4	18.4
Other Accruals	1.4	1.4	1.4	1.4	1.4
Accrued Liabilities	0.3	0.3	0.3	0.3	0.3
Deferred Revenue	3.0	9.6	9.6	9.6	9.6
Other	1.5	1.5	1.5	1.5	1.5
Other Liabilities					
Warrant Liab. + deferred rent	6.4	5.8	5.8	5.8	5.8
Total Equity	65.2	66.6	44.7	53.8	66.6
Total Liabilities and Equity	96.7	104.1	85.8	99.9	113.8
Key Ratios:					
Net Working Capital Excl. Cash & S.T. Debt	$31.2	$39.3	$51.2	$72.3	$86.8
Quick Ratio					
Current Ratio	2.7x	2.3x	1.4x	1.3x	1.3x
Days Inventory	230.0	44.1	25.8	19.3	18.5
% change					
Days Sales Outstanding	103.8	111.2	86.6	81.1	81.1
% change					
Days Payable	101.6	100.2	110.6	104.3	104.3
% change					
Inventory TO (Sales/Inv)	0.4x	2.1x	3.5x	4.7x	4.9x
% change					
Inventory / Revenue	63%	12%	7%	5%	5%
% change					
LT Debt/Equity	20.6%	15.3%	22.8%	18.9%	15.3%
Total Debt/Total Capital	13.9%	9.8%	11.9%	10.2%	8.9%
Return On Average Equity	-92.5%	-73.5%	-49.1%	17.0%	19.2%

Source: Company reports and Cowen and Company

Complete Genomics – Annual Cash Flow Statement

$MM	2010	2011	2012	2013E	2014E
CASH FLOWS FROM OPERATING ACTIVITIES	**-$26.8**	**-$31.6**	**-$13.9**	**$13.0**	**$28.4**
Net Income	-$60.3	-$49.0	-$21.9	$9.1	$12.8
Depreciation & Amortization	$10.3	$14.8	$14.8	$16.0	$16.0
Growth					
Share-Based Comp	0.0	0.0	0.0	0.0	0.0
Deferred Income Tax	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Working Capital	$2.8	$2.5	-$6.8	-$12.1	-$0.5
Accounts Reciveable	-5.5	-7.9	-7.4	-12.2	-3.3
Inventory	0.1	1.3	-1.2	-1.8	-0.4
Other Current Assets	-0.8	-0.7	-1.7	-3.1	2.2
Other Assets	0.0	0.0	0.0	0.0	0.0
Accounts Payable	3.9	3.3	3.6	5.0	1.1
Accuruals	0.0	0.0	0.0	0.0	0.0
Accrued Liabilities	0.0	0.0	0.0	0.0	0.0
Deferred Rev./Other	5.0	6.5	0.0	0.0	0.0
CASH FLOWS FROM INVESTING ACTIVITIES	**-$16.0**	**-$19.0**	**-$20.0**	**-$25.0**	**-$30.0**
CapEx	-16.0	-19.0	-20.0	-$25.0	-$30.0
CASH FLOWS FROM FINANCING ACTIVITIES	**$46.7**	**$46.6**	**$0.0**	**$0.0**	**$0.0**
Equity Issues	50.0	50.0	0.0	0.0	0.0
Net Debt	-3.1	-3.3	0.0	0.0	0.0
Interest Expense	-0.1	-0.1	0.0	0.0	0.0
Net Cash Flow	**$3.9**	**-$4.0**	**-$33.9**	**-$12.0**	**-$1.6**
Beginning Balance	0.0	60.1	56.0	22.2	10.2
Ending Cash Balance	**$3.9**	**$56.0**	**$22.2**	**$10.2**	**$8.6**

Complete Genomics – Cowen and Company Summary ($MM)

	2010	2011	2012	2013E	2014E
EBITDA	**-$50.3**	**-$34.5**	**-$7.5**	**$24.7**	**$28.4**
Depreciation:	10.3	14.8	14.8	16.0	16.0
COGS	7.0	10.4	10.4	11.0	11.0
Expenses	3.2	4.5	4.5	5.0	5.0
Interest Income					
Interest Expense	0.1	0.1	0.1	0.1	0.1
Tax Provison	0.0	0.0	0.0	0.0	0.0
Other	-0.4	-0.5	-0.5	-0.5	-0.5
Net Working capital					
Dividend	0.0	0.0	0.0	0.0	0.0
CapEX	-16.0	-19.0	-20.0	-25.0	-30.0
Free Cash Flow	**-$42.8**	**-$50.6**	**-$33.9**	**-$12.0**	**-$1.6**

Source: Company reports and Cowen and Company.

Addendum

STOCKS MENTIONED IN IMPORTANT DISCLOSURES

Ticker	Company Name
CRL	Charles River Labs
GNOM	Complete Genomics
ILMN	Illumina
LIFE	Life Technologies
LMNX	Luminex
QGEN	Qiagen

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Rating	Definition
Outperform (1)	Stock expected to outperform the S&P 500
Neutral (2)	Stock expected to perform in line with the S&P 500
Underperform (3)	Stock expected to underperform the S&P 500

(a) Assumptions: Time horizon is 12 months; S&P 500 is flat over forecast period.

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Rating	Pct of companies under coverage with this rating	Pct for which Investment Banking services have been provided within the past 12 months
Buy (b)	48.7%	3.8%
Hold (c)	47.7%	1.3%
Sell (d)	3.6%	0.0%

(a) As of 09/30/2010. (b) Corresponds to "Outperform" rated stocks as defined in Cowen and Company, LLC's rating definitions (see above). (c) Corresponds to "Neutral" as defined in Cowen and Company, LLC's ratings definitions (see above). (d) Corresponds to "Underperform" as defined in Cowen and Company, LLC's ratings definitions (see above). Note: "Buy," "Hold" and "Sell" are not terms that Cowen and Company, LLC uses in its ratings system and should not be construed as investment options. Rather, these ratings terms are used illustratively to comply with NASD and NYSE regulations.

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