FROST & SULLIVAN

C2I GENOMICS, INC.

2022
TECHNOLOGY
INNOVATION
LEADER

NORTH AMERICAN
DIGITAL CANCER MONITORING
PLATFORM INDUSTRY

FROST & SULLIVAN

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. C2i Genomics, Inc. excels in many of the criteria in the North American digital cancer monitoring platform space.

AWARD CRITERIA

Technology Leverage	Business Impact
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Stage Gate Efficiency	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

Growing Adoption of Whole Genome Sequencing (WGS)

WGS consists of highly complex and valuable biological data that can decode the most intricate information embedded in a living form. Following the success of the Human Genome Project in 2006, immense opportunities have been created to study and understand various aspects of biological data using WGS. The evolution of technologies that facilitate easy and efficient sequencing has changed approaches in healthcare. Today, with the help of advanced systems, next-generation sequencing (NGS) can be performed in most laboratories and is more accessible than before. In addition, NGS is automated, cost effective, and easily performed by researchers.

"C2i Genomics developed this highly automatic, customizable, cost-efficient, globally accessible cancer data management platform to enable the micro-monitoring of the cancer environment in patients."

- Neeraja V, Research Analyst"

NGS allows for WGS in a considerably short time frame, compared to Sanger sequencing, followed by analyzing the large volume of data generated. The precise information provided through individual genome sequencing is highly valuable while developing novel therapeutics and for diagnostics. One of the biggest advantages of WGS is that it provides insights and details at the genomic level, which cannot be obtained by performing medical scans or blood tests. Compared

to the targeted sequencing approach adopted by most liquid biopsy-based diagnostics developers, a WGS approach can detect richer genomic signatures from ctDNA. Targeted sequences provide information related to specific genes and targets that have been determined to have some association with the disease area of interest, while WGS expands the scope by covering all genes and by providing information based on larger sequenced regions.

In-depth analysis is needed, however, especially in cases of early cancer detection and cancer recurrence. Cancer monitoring has many gaps, such as obtaining the cancer patient's real-time personalized information, which can be addressed through WGS. Cancer patients often receive excess treatment or are under-   treated because of the lack of efficient tumor cell tracking systems. In addition, patients are often treated with excess chemotherapies and radiation to eliminate cancer cells completely, and, in other cases, residual cancer cells go unidentified and eventually lead to cancer relapse.

Founded in 2019, New York-based C2i Genomics improves cancer monitoring through its globally accessible digital cancer monitoring system. The company developed a globally scalable software-as-service (SaaS) solution that can meet the shortcomings in cancer monitoring by analyzing the WGS for high-precision, personalized cancer management. C2i Genomics developed this highly automatic, customizable, cost-efficient, globally accessible cancer data management platform to enable the micro-monitoring of the cancer environment in patients. This platform is compatible with analyzed sequences received from any sequencer, thus increasing   accessibility worldwide. The technology reduces the impact of cancer on patients and alerts patients on the onset or recurrence   of cancer at the right time to make accurate, data-driven decisions.

Developing a Robust Genomic Cloud Platform

C2i Genomics has emerged as a prominent company in terms of utilizing genomic data in monitoring cancer with its C2-Intelligence Platform. The C2-Intelligence Platform integrates WGS with artificial intelligence (AI) to provide information that is Ultra-   sensitive in detecting residual tumor cells to monitor cancer, which is superior to existing cancer diagnostics and monitoring methods. The company's algorithm can detect cancer early and monitor the progression of cancer in patients. With the Big Data cognitive approach developed by C2i Genomics, researchers can look at patterns from large samples of genomic sequences, rather than focusing on specific cancer mutations, compared to what is performed by competitors. Studying specific mutations limits the knowledge to a gene sequence, while WGS studies can provide information on multiple tumor-specific signatures related to the disease progression from a 1 to 2 milliliter (ml) blood sample, which is the bare minimum when compared to competitors performing liquid biopsy tests for diagnostics using higher volumes of blood samples. With a small blood sample, nearly 1 ml of plasma can be obtained, providing a vast amount of genomic data that is not segmented because of the focus on specific sequences. Moreover, WGS increases sensitivity and provides accurate data.

 The C2-Intelligence Platform can track and detect changes in cancer patients few weeks after surgery, and can analyze about 50,000 data points in the patient's tumor signature and remove all the noisy irrelevant data by using sophisticated machine learning error suppression tools. Moreover, the platform can highlight the potential for cancer cell regrowth or the residual remains of tumor cells post-surgery.

Even though WGS can be performed easily, managing huge volumes of genomic data is a challenging task for most researchers; therefore, the data must be managed efficiently to interpret and derive meaningful information to monitor cancer developments in real time. C2i Genomics' C2-Intelligence Platform can efficiently monitor cancer patients and developments without physical examination, and the genomic data collected and analyzed is sent to a cloud platform that physicians can access via a fully integrated and secured interface to their patients medical records and make immediate decisions based on the results. These results can be generated in one week, which is rapid when compared to the 6 to 8 weeks with competing solutions.

Frost & Sullivan applauds C2i Genomics for developing an advanced technological solution that can monitor cancer in real time and drive the precision medicine field to achieve new landmarks.

Increasing Application Diversity

C2i Genomics aims to be a one-stop solution provider in oncology that covers early diagnostics, disease progression, treatment response, and clinical trials in the next 5 years. The company envisions advancing the ability to track minute changes in the cancer environment and enable personalized treatment for a wide range of cancer types, such as lung, colon, bladder, and glioblastoma, and provide insights on organ resection in the case of advanced cancer forms. The company's platform helps researchers identify the right patient cohort for a clinical trial based on the biopsy mutation signature and blood-based minimum residual diagnosis. Moreover, the platform helps physicians detect cancer early and track molecular responses to treatments provided to patients.

C2i Genomics has ongoing collaborations with multiple cancer institutes to collect data from cancer patients, thus increasing the accuracy of the platform and helping researchers analyze patterns and signatures from multiple data points to extract information on cancer progression. The platform aggregates chemotherapy and immunotherapy data from cancer patients, enhances clinical trials, and is currently deployed in six active studies across five sites worldwide.

Growth of C2i Genomics' Cancer Intelligence Platform

C2i Genomics is developing one of the largest databases in oncology with diversified data from multiple ethnicities, making it highly valuable and informative in precision medicine development and cancer monitoring. The company has a dynamic team with expertise in different disciplines, with the goal to improve cancer monitoring and management for patients over the long term. In addition, the company participates in global conferences and will be ready to publish its studies in 2022.

As of November 2021, C2i Genomics has raised close to $113 million from global investors. The aim is to perform clinical trials in cohorts with 1,000 to 2,000 cancer patients to monitor the cancer cell environment continuously. In addition, the company aims to partner with alternate sequencing technology developers rather than with leading sequencing market participants to make WGS significantly more cost efficient. C2i Genomics is positioned to generate revenue streams from collaborations with pharmaceutical companies in 2022.

C2i Genomics overcomes the challenges in data protection and data sharing by creating strong guidelines to facilitate data sharing and, at the same time, prevent any data violations. The company

> *"C2i Genomics is developing one of the largest databases in oncology with data from multiple ethnicities, making it highly valuable and informative in precision medicine development and cancer monitoring."*
>
> *- Neeraja V, Research Analyst"*

complies with General Data Protection Regulation (GDPR) and Health Insurance Portability and Accountability Act (HIPAA) and has met all regulatory guidelines when managing genomic data. C2i Genomics has put in the effort to overcome data management barriers in stringent geographies, such as Europe, Singapore, India, and China, and interacts with data sources from the United States.

The company is entering strategic partnerships to increase its presence across different geographical regions. For example, C2i Genomics is partnering with Novogene in Singapore to expand its presence and to increase platform adoption, also partnering with OncoDNA to launch the C2i intelligence platform in Europe. In addition, C2i Genomics is partnering with NuProbe Global in China and the United States to expand AI-powered cancer detection and monitoring capabilities.

Conclusion

A digital platform is needed that can continuously track changes in the cancer environment in patients. The potential of whole genomic data is immense and only integrating with AI can draw out complete, relevant information without wasting large amounts of data.

C2i Genomics has successfully developed a robust platform for faster and more accurate data interpretation from a significantly smaller sample size. The company's technology uses minimum input and generates maximum output from WGS, rather than focusing on specific mutations and genes that might lead to missing out on the large biological network connection.

With its outstanding growth, exceptional innovation in developing a cancer monitoring platform, and strong overall performance, C2i Genomics earns Frost & Sullivan's 2022 Technology Innovation Leadership Award in the North American digital cancer monitoring platform industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

Learn more.

Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)