“Our mission is simple, we want to save lives.”

Our mission is simple, we want to save lives.

We’re developing easy to use routine blood tests that can screen for cancer. With this, we aim to revolutionize the way cancer, and other diseases, are diagnosed.

Volition is one of the leading epigenetics companies and is listed on the New York Stock Exchange. We are very fortunate to have attracted numerous long-term shareholders to our Company who share the same vision of revolutionizing cancer diagnostics, helping people find cancer earlier in order to improve outcomes for millions of people worldwide.

I am really proud to be Executive Chairman of Volition and I’m excited with the progress we are making as we enter our tenth year. I would like to thank the whole team for their continued efforts as well as our many collaborators around the world, the Principal Investigators of our clinical trials and members of our Scientific Advisory Board. I’d also like to acknowledge the contribution and continued financial support of the Walloon Region of Belgium and our shareholders.

I look forward to announcing the results of key studies in the coming year.

Dill Faulkes

Cancer is the world’s second leading cause of death, responsible for one in six deaths each year. It’s a devastating disease that touches many people’s lives.

We know that the best way of improving someone’s chances of surviving cancer is to diagnose it early. Yet current tests that screen for cancer are often invasive and unpleasant. They can be expensive, and some only identify late stages of cancer.

These factors mean that many people are not being tested and receiving that important early diagnosis.

Dill Faulkes

Executive Chairman
Let me start by saying how extremely exciting it is to see our field of epigenetics become so mainstream over the past year, this has always been our hope.

We have been working for a decade now to develop our epigenetic platform, intellectual property, team and products - so to see this all come together at a time when epigenetics has become so widely accepted, one could even say “hot” is incredibly gratifying and shows the amazing vision of our scientific team.

I’m happy to say that we have great momentum and have made significant progress on many fronts over the last 12 months particularly in assay and platform development, with our Nu.Q™ Capture program, our Colorectal Cancer and Lung Cancer work, with Nu.Q™ Vet in collaboration with Texas A&M University and most recently with the acquisition of Octamer to expand our capabilities in epigenetics, and furthering our goal of bringing all key components of our tests in-house.

We continue to manage cash carefully and believe, given the cost effectiveness of our research and development program that we are in a solid position with regards to the financial runway to achieve our 2020 key milestones.

Our worldwide portfolio of granted patents is growing. Our strategy is to protect our technologies and leverage the strength of our intellectual property portfolio to gain market exclusivity in the United States, Europe and other strategic countries.

The patents on the technologies underlying our products should provide broad coverage, including veterinary medicine applications and provide protection through to at least 2031.

This is a key differentiator versus many other technologies either under development or available on the market, where the patent position may be poor and/or narrow.

During 2019 and into 2020 our organization grew significantly:

• Our laboratory team expanded appreciably to include, among others, the appointment of an Assay Validation Expert who has been instrumental in taking our assays forward.
• We added two new operating subsidiaries with the formation of Volition Veterinary Diagnostics in June 2019 and the acquisition of Octamer, our epigenetics reagents subsidiary, now named Volition Germany, in the early part of 2020.
• In connection with the formation of Volition Veterinary Diagnostics, we welcomed Nathan Dewsbury as its Chief Executive Officer and, through our collaboration with Texas A&M University, Dr. Heather Wilson-Robles DVM, as its Chief Medical Officer.
• We expanded our Scientific Advisory Board to include Dr. Adrian Schomburg, one of the world’s leading experts on Nucleosomes and founder and CEO of Octamer.
• We also welcomed Dr. Phillip Barnes to our Board of Directors.
Research and development progress.

We have completely re-engineered our Nu.Q™ Clinical Assays and I am delighted to say that our platform has been fully optimized and is now finalized. This Optimization Program led to a step-change improvement in analytical performance and, as importantly, made our assays very robust and reproducible, so that they can be adapted to a broad range of platforms suitable for almost any lab in the world. Further details can be found on page 26.

Over the past twelve months while we have been working on the aforementioned assay development, to assess clinical accuracy, we have completed some proof of concept studies. While this work is yet to be completed for the finalized assays, preliminary results were extremely encouraging; even the development assays demonstrated our highest ever Area Under the Curve performance in Blood Cancer at 91% and in Lung Cancer at 85% in addition to previously reported data in Colorectal Cancer.

We are also now very close to finalizing our blood plasma sample pre-analytics and expect to see the enhanced analytical performance of our now finalized automated magnetic chemiluminescent assays to translate into improved clinical performance in the studies to be carried out and reported in the coming months.

We currently have four finalized bead-based Nu.Q™ assays and anticipate a further four will be finalized by the end of the first quarter 2020. We will then report their clinical performance as both individual assays and in panel combinations across a range of cancers and expect to release news in the second quarter of 2020 and beyond.

Our many years of research in epigenetics has also led to the development of multiple new novel epigenetic tools in our Nu.Q™ Capture program, for use not only in cancer diagnostics but hopefully in other areas too. For more details please see page 29.

Our team could not be more excited by the potential of these newly developed tools that they believe will lead to a significant shift in epigenetic-based blood tests. We aim to leverage our technologies to establish a leadership position in epigenetics. We expect to announce patient data demonstrating the wide utility of these methods in the coming months and beyond and are looking forward to abstracts, posters and papers to be published as well.
With regard to our large-scale clinical studies, collection is well underway at the National Taiwan University. Over 5,500 samples have been collected in the Colorectal Cancer study and almost a third of targeted samples collected in the NTU lung study.

In the US, we have recently agreed with the Early Detection Research Network of the National Cancer Institute to amend to our previous agreement for the GLNE010 Colorectal Cancer screening trial. The recent decrease in the incidence of new Colorectal Cancer cases reduced the number of available qualified subjects for GLNE010 and would have delayed completion of the study. To address this, EDRN is combining subjects accrued in GLNE010 with subjects from a previously collected study, GLNE007, and has reactivated GLNE007 to collect prospectively approximately 400 new Colorectal Cancer cases under a newly designed protocol. The aim of the new study design is to collect a large cohort allowing validation of biomarkers for the early detection of Colorectal Cancer.

The changes to the ERDN studies should not affect our FDA approval strategy as we still plan to use the studies to support our PMA application for a Colorectal Cancer screening product.

Following the proof of concept study results in Blood Cancer announced in December we are currently planning a clinical trial program for Non-Hodgkin’s Lymphoma and hope to announce details in the coming months.

On the Veterinary side of the business I am absolutely delighted with the rapid progress that the team is making. At Texas A&M University, we are now in the process of securing the same machines and automates as we use in our facility in Belgium, so that the same work can concurrently be carried out on humans and animals at separate locations. This will help broaden our knowledge in both human and animal diagnostics as the work to date is proving very similar.

Associate Professor Dr. Heather Wilson-Robles of Texas A&M College of Veterinary Medicine will also work as Chief Medical Officer of Volition Veterinary Diagnostics – we are thrilled to formally welcome Heather to the team.

We believe that the veterinary market presents a significant commercial opportunity for Volition and yet creates very little by way of additional costs given the fact it utilizes the same Intellectual Property, the same assays, the same format etc. as we use in our other markets. I truly hope that we will be able to launch our first Nu.Q™ Vet product during 2020. For more details please see page 31.

Overall our research and development team has made remarkable progress while still keeping our cash burn rate low and consistent with prior quarters. I am incredibly proud of the effort made and tenacity shown by the whole research and development team and thank them for their tireless efforts.

Looking ahead to the future, I would like to reiterate our vision and what makes us so excited with our progress and our space. Volition is an epigenetics company focused on advancing the science of epigenetics and exploiting these advances in human health. This has been our mission since our founding, and it is coming to fruition with our Nu.Q™ platform, at the very heart of epigenetics.

We believe epigenetics is more important than genetics (DNA), in short, it’s not the DNA- it’s the full chromosome that is key. We also believe the last decade of work at Volition with our ever-expanding team in epigenetics puts us in an extremely strong position with our expansive IP portfolio to be a significant player in this key field.

On so many fronts, with our ever-growing team and IP, I am delighted with the progress we are making and am excited by the momentum we have developed in the epigenetics field.

With regards to conference abstracts, posters and clinical papers, we hope to be able to release news around some of the major conferences this year – exciting times indeed!

We aim with our solid cash position, to report throughout 2020 and beyond several key milestones including Nu.Q™’s ability to detect a range of cancers in both humans and animals, in addition to clinical data on Nu.Q™ Capture.

We are delighted to be working with our collaborators from around the world, all of whom have outstanding reputations and share our aim in improving early diagnosis of cancer and other diseases.

I, along with the rest of the Board, and indeed the whole company, look forward to sharing the results of key studies over the coming year with our optimized platform. We expect 2020 to be our most exciting year yet!

Cameron Reynolds
Closed 2019 with $17 million in cash & cash equivalents.
Average monthly burn rate of $1.2 million.

We closed 2019 with $17 million in cash and cash equivalents versus $13.4 million at year end 2018.
We continued to enjoy exceptional shareholder support throughout the year receiving $16.6 million in cash proceeds upon the exercise of warrants by existing shareholders.
We were equally delighted to further strengthen our balance sheet throughout the year with additional non-dilutive funding totalling $3.3 million from the Eurostars Programme and various Walloon Governmental agencies. This takes the total non-dilutive funding we have received to date to over $7.6 million.

Our research and development program is remarkably cost effective, especially given its cutting-edge nature, and the size and range of our clinical trial program. Consequently, we are also really proud to be able to have done all our work with a consistent and remarkably low monthly cash burn rate of approximately $1.2 million throughout 2019.

We continue to manage cash carefully and believe that we are in a solid position with regards to the financial runway to achieve our 2020 key milestones.
Intellectual Property Update

Our worldwide portfolio of granted patents that protects various aspects of Volition’s Nu.Q™ technology is growing steadily.

Our strategy is to protect the technologies we develop and gain market exclusivity with patents in Europe, the United States and in other strategic countries.

We have 23 patent families related to our diagnostic tests, with a total of 44 patents granted including 8 in the United States, 9 in Europe and a further 27 worldwide. Additionally, we have 105 patent applications pending including 13 in the United States, 10 in Europe and a further 82 worldwide. Our patent portfolio also covers veterinary medicine applications.

We intend to continue our pioneering work in the field of epigenetics through the development of our proprietary Nucleosomics™ technologies and will continue to apply for patents for future product developments. We believe that the patents on the technologies underlying our products should provide broad coverage for each product, including protection through at least 2031.

We believe that this is another key differentiator with many other technologies under development or available in the market.
We’re currently researching a range of cancers:

- Colorectal
- Gastric
- Lung
- Prostate
- Blood
- Pancreatic
- Ovarian
- Head & Neck
- Breast

We plan to develop multiple Nu.Q™ products across the following categories:

- **Frontline Screening Tests**
  - For asymptomatic subjects for the most prevalent cancers.

- **‘Triage’ Tests**
  - To work in conjunction with existing tests to improve sensitivity and/or specificity.

- **Frontline Diagnostic Tests**
  - To aid the diagnosis of disease and/or treatment selection in symptomatic patients.

- **Patient Monitoring Tests**
  - To help monitor high risk groups and/or identify relapse.

Global licensing opportunities

In addition to the above Products, we also expect to drive revenue through global licensing opportunities from 2021.
Our purpose built biobank holds over 20,000 samples allowing us to continuously test our Nu.Q™ platform.
Cancer is in essence a disease of genetic and epigenetic misregulation of oncogenes and tumour suppressor genes in the chromosomes of affected cells, leading to uncontrolled cell division and eventually to uncontrolled tumour growth and spread. Thus, the epigenetic signalling structures of chromosomes and nucleosomes is different in cancer cells and healthy cells of the same tissue. These differences can be used for the early detection of cancer using epigenetic biomarkers.

When a cancer cell dies, its chromosomes are digested into nucleosomes. Most nucleosomes are metabolised, but some are released into the blood stream as circulating nucleosomes. The DNA attached to these nucleosomes is ctDNA. However, liquid biopsy companies extract only the DNA and discard the remainder of the nucleosome. Volition measures whole circulating nucleosomes containing particular epigenetic signals and structures using our low cost, but highly accurate Nu-Q™ tests.

The epigenetic structure of nucleosomes of cancer origin is known to differ from that of nucleosomes from healthy cells. These epigenetic changes occur early and drive the development of cancer, for example by inappropriately activating oncogenes that promote cell division or inactivating tumor suppressor genes that repress cell division.

However, unlike a DNA cancer mutation which occurs only once or twice in the millions of nucleosomes in a cancer cell, the epigenetic changes that occur in cancer are not restricted to a single nucleosome or even to the nucleosomes covering oncogenes and tumor suppressor genes, but are widely distributed across nucleosomes providing a larger cancer signal enabling earlier detection of cancer.

We use our Nu-Q™ ELISA tests to detect a variety of early stage cancers.
Volition’s approach is to investigate the epigenetic structure of chromatin and nucleosomes rather than investigating only the DNA sequence. We have a continuously growing number of technologies including:

- A suite of low cost Nu.Q™ ELISA tests that can accurately measure nucleosomes containing any epigenetic signal or structure.
- Production of synthetic (recombinant) nucleosomes containing exact defined epigenetic signals and structures. These are used to ensure exquisite accuracy of Nu.Q™ ELISA tests but also have many other applications including as tools in epigenetic drug development.
- Nu.Q™ Capture technology to isolate or enrich nucleosomes containing particular epigenetic signals or structures for a wide range of potential scientific and medical applications. For example, the enrichment of nucleosomes of tumour origin in blood samples taken from cancer patients. For further information see page 29.

Improving outcomes for cancer patients.

The prospects for cancer patients vary greatly depending on whether the disease is detected at an early localized stage when effective treatment options are available, or at an advanced stage when the disease may have spread, and treatment is much more difficult.

Unfortunately, most cancers are symptomless at early stage and most patients are not diagnosed until the disease has spread to other organs in the body and the likely outcome is poor.

Simple low-cost blood tests to detect cancer diseases at an early stage leading to earlier treatment would greatly improve patient outcomes.
We now have 30 staff in Belgium.

Our Automates Lab now includes the Lumiart and IDS platforms.

The facility has space for 25 lab technicians.
Over the last two years we have completely re-engineered the Nu.Q™ assays in all respects leading to a step-change improvement in analytical performance which is now equivalent to the best in class in the diagnostics industry. The platform has been fully optimized and is now finalized. We expect this enhanced analytical performance to translate to improved clinical performance in the studies to be carried out and reported in the coming months.

This Optimization Program made our assays very robust and reproducible, so that they can be adapted to a broad range of platforms suitable for almost any lab. Volition has created assets by:

• Developing recombinant nucleosomes as calibrants which provide for assay specificity and reliable quantitation. Volition developed synthetic nucleosomes with our partners but has now brought this expertise in-house with our recent acquisition of Octamer;

• Internalizing key processes such as chemiluminescent antibody labeling and coating of magnetic beads. This secures our supply chain and provides flexibility to speed up our assay development work;

• Moving from a microtiter plate format to a magnetic particle-based assay format. This improves assay kinetics and hence assay sensitivity and also reduces assay time and increases assay throughput;

• Moving from blood serum to blood plasma as the test sample which reduces assay interference;

• Moving from a traditional colorimetric endpoint format to a chemiluminescent endpoint. This further reduces background leading to further improvements in assay sensitivity, as well as greatly extending the usable range of the assays. Moreover, the combination of a chemiluminescent endpoint with a magnetic particle-based assay format greatly improved the specificity of Nu.Q™ assays;

• Moving all of these improvements onto an FDA approved automated immunoassay analyzer which is currently in clinical use across USA and Europe. This further decreases assay processing time and greatly increases the reproducibility and reliability of assay results so that the same correct result is produced for any patient sample regardless of where or when the test is done or who operates the instrument.
In 2019 we made significant progress with our Nu.Q™ Capture development program.

The Nu.Q™ Capture technology is based on a number of fundamental points. Firstly, DNA fragments do not circulate in the blood “naked” as the famous double-helix, but as a ball of protein with a string of DNA wrapped around it like a cotton reel. The cotton reel is called a nucleosome.

In cancer there are a lot of cell deaths and when a cancer cell dies the nuclear components are metabolized into up to 20 million individual DNA-Nu complexes and released into circulation. A cancer mutation will occur in one-in-a-million of the DNA-Nu complexes.

Utilising our Nucleosomics™ technology we target ALL 20 million circulating DNA-Nu complexes because nucleosome modifications occur globally. However, many ctDNA sequencing methods in development must target that “one-in-a-million” DNA-Nu complex.

The idea of Nu.Q™ Capture is that we can enrich specifically for cancer derived nucleosomes that are also containing that specifically mutated DNA.

The DNA fragments that originate from normal cells are on average around 20 DNA base pairs, or approximately 14%, longer than DNA fragments from cancer cells.

The extra 20 base pairs of DNA is called “linker DNA”. Our hypothesis is that removal of these longer DNA fragments enriches the sample for DNA of tumor origin. Scientists at Volition have used a chromosomal protein to bind to the nucleosomes of healthy origin that have the extra linker DNA and remove them from patient samples.

Volition believes that this breakthrough will enable improved detection of cancer by Volition’s Nucleosomics™ technologies as removal of most “healthy” nucleosomes enables easier measurement of cancer nucleosomes. Similarly, the removal of most “healthy” nucleosome associated DNA will facilitate enhanced detection of cancer using ctDNA technologies.

We have developed and filed patent applications with the aim of using:

- Nu.Q™ Capture methods to enrich cancer nucleosomes and simplify sequencing based “liquid biopsies”;
- Nu.Q™ Capture methods to isolate intact nucleosomes from plasma for mass spectrometry analysis in the framework of both biomarker discovery and clinical diagnostics;
- Nu.Q™ Capture to measure global methylation patterns in a simple platform;
- Nu.Q™ Capture to concentrate nucleosomal markers prior to our Nu.Q™ assays to increase accuracy;
- Nu.Q™ platform to detect and measure circulating nucleosomes and transcription factors with potential to be tissue specific, and therefore cancer specific. This, if successful could result in a simple blood test for multiple cancers.

We expect to have the first sequencing, immunoassay and mass spectrometry data in the first half of 2020.

“The Nu.Q™ Capture technology represents the first example of a revolutionary epigenetic product solution to a genetics problem and could provide a real breakthrough in the diagnosis of this deadly disease.”
In August 2019, we formed a Texas-based subsidiary called Volition Veterinary Diagnostics Development LLC appointing Nathan Dewsbury as its Chief Executive Officer. In October 2019 we announced that Texas A&M University took a 12.5% equity stake in the business.

We are delighted that Associate Professor Dr. Heather Wilson-Robles of Texas A&M College of Veterinary Medicine will also work as Chief Medical Officer of Volition Veterinary Diagnostics. The Texas A&M College of Veterinary Medicine & Biomedical Sciences is working with Volition to develop tests for the early detection of cancer and other diseases in animals. We are in the process of securing the same machines and automates that we use in our facility in Belgium, so that the same work can concurrently be carried out on humans and animals at separate locations.

Our current research focus is cancer in dogs because the leading cause of death in dogs is cancer, and many types of canine cancer are biologically similar to human cancers.

Nucleosome detection in dogs, combined with Volition’s discrimination in humans, strongly suggests that the Nu.Q™ platform may be applied to animal diagnostics in veterinary medicine. The pre-analytical work is almost completed, and our first two clinical studies are underway.

The U.S. is currently the largest market for veterinary diagnostics and has a clearly defined regulatory pathway via the U.S.D.A. which requires fewer smaller clinical studies than the FDA process for human diagnostics and as such, provides a faster overall review process which may result in a faster route to revenue than the human IVD tests.

We plan to get the news out quickly and have a busy conference calendar with a number of abstracts submitted and oral presentations already confirmed at some prestigious conferences throughout 2020.

We are extremely excited about the commercial opportunity that the veterinary market opens up to us and look forward to offering Nu.Q™ Vet tests to animal owners and veterinarians. There are currently no accurate, simple, affordable cancer screening or diagnostic tests available in veterinary medicine and yet 25% of dogs will develop cancer at some stage of their life and over half of dogs over 10 years old will die from cancer.

We believe that licensing this technology (the use of which is covered by our extensive Intellectual Property portfolio) will potentially provide significant revenue for Volition in addition to providing additional technical validation of our platform.
Volition · Update 2020

Executive Team

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President & Group CEO

Dill Faulkes
Executive Chairman

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CEO, Belgian Volition

David Vanston MBA, FCCA
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Chief Medical Officer and CEO, Volition America

Scott Powell
Executive Vice President of Investor relations

Rod Rootsaert LLB
Corporate Secretary
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Additionally, this Brochure contains forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that concern matters that involve risks and uncertainties that could cause actual results to differ materially from those anticipated or projected in the forward-looking statements. Words such as "expects," "anticipates," "intends," "plans," "aims," "targets," "believes," "suggests," "could," "would," "should," "may," "will" and similar expressions identify forward-looking statements. These forward-looking statements relate to the effectiveness of Volition’s blood-based diagnostic tests as well as Volition’s ability to develop and successfully commercialize such test platforms for early detection of cancer and other diseases. Volition’s actual results may differ materially from those indicated in these forward-looking statements due to numerous risks and uncertainties. For instance, if Volition fails to develop and commercialize diagnostic products, it may be unable to execute its plan of operations. Other risks and uncertainties include Volition’s failure to obtain necessary regulatory clearances or approvals to distribute and market future products in the clinical IVD or the veterinary market; a failure by the marketplace to accept the products in Volition’s development pipeline or any other diagnostic products Volition might develop; Volition’s failure to secure adequate intellectual property protection; Volition will face fierce competition and Volition’s intended products may become obsolete due to the highly competitive nature of the diagnostics market and its rapid technological change; and other risks identified in Volition’s most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as well as other documents that Volition files with the Securities and Exchange Commission. These statements are based on current expectations, estimates and projections about Volition’s business based, in part, on assumptions made by management. These statements are not guarantees of future performance and involve risks, uncertainties and assumptions that are difficult to predict. Forward-looking statements are made as of the date of this release, and, except as required by law, Volition does not undertake an obligation to update its forward-looking statements to reflect future events or circumstances.

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