



Management's Discussion and Analysis

For the Year Ended December 31, 2021

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MANAGEMENT'S DISCUSSION AND ANALYSIS

YEAR ENDED DECEMBER 31, 2021

The following Management Discussion and Analysis ("MD&A") of the financial condition and results of operations of dynaCERT Inc. ("dynaCERT" or the "Company") was prepared by management as at April 4, 2022 and was reviewed and approved by the Audit Committee. The following discussion of performance, financial condition and future prospects should be read in conjunction with the consolidated financial statements of dynaCERT Inc. and notes thereto for year ended December 31, 2021. The information provided herein supplements but does not form part of the financial statements. All amounts are stated in Canadian dollars unless otherwise indicated. Additional information related to the Company is available for view on SEDAR at www.sedar.com.

CAUTION REGARDING FORWARD LOOKING STATEMENTS

Certain statements contained in this document constitute forward-looking statements. When used in this document, the words "may", "would", "could", "will", "intend", "plan", "propose", "anticipate", and "believe", used by any of the Company's management, are intended to identify forward-looking statements. Such statements reflect the Company's forecasts, estimates and expectations, as they relate to the Company's views with respect to future events and are subject to certain risks, uncertainties, and assumptions. Many factors could cause the Company's performance or achievements to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. The Company does not intend and does not assume any obligation, to update any such factors or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events, or developments.

NATURE OF BUSINESS

dynaCERT Inc. is domiciled in Canada with its registered and head office at 501 Alliance Avenue, Suite 101, Toronto Ontario, M6N 2J1. The Company is listed on the Toronto Stock Exchange (DYA), the Börse Frankfurt (DMJ) and the OTCQX (DYFSF).

dynaCERT is a growing cleantech sector Company that specializes in delivering Carbon Emission Reduction Technologies to the global diesel engine marketplace. Throughout our years in business, we have worked to provide a reliable and effective electrolysis unit that can generate hydrogen and oxygen on demand to: (a) address the growing requirements to reduce toxic emissions; and (b) address the desire to provide lower operating costs including an increase in fuel economy.

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The Company is engaged in the design, engineering, manufacturing, testing, and distribution of a transportable hydrogen generator aftermarket product, currently in use in the heavy Class 6-8 tractor trailer industry, the smaller Class 2-5 trucks, stationary power generation, off-road construction machinery, and mining and targeted for use in refrigerated trailers and containers, and forestry industries, with potential for application in the ocean shipping and trans-continental rail industries.

The system is a patented and patent pending retrofit product that is designed to provide performance enhancements by introducing hydrogen and oxygen into the air intake manifold resulting in greater fuel efficiency and reduced carbon emissions.

Impact of Covid-19

The rapid spread of COVID-19 worldwide has caused significant economic contraction and uncertainty, resulting in the Company not being able to produce product and thereafter to be able to ship product to our customers for an extended period of time. While the Company resumed operations on August 4, 2020, the worldwide pandemic starting in late 2019 slowed down parts of the Company's supply chain, thereby stopping all final assembly work on existing client orders until raw material deliveries resumed and were received towards the end of March 2020. Further, European shut down of non-essential commerce from January through August 2020 significantly affected the Company's ability to deliver finished goods as our customers were not able to accept incoming goods or install HydraGEN™ technology units on their trucks and equipment. Further sales efforts were also curtailed with potential dealers and their customers all affected by the Stay-at-Home rules put in place by the countries where the Company does business. Although the Ontario pandemic response was a few weeks behind the early stages of European experiences, in Ontario, the government mandated that all non-essential work be stopped, and employees be sent home on March 16, 2020 and the Company fully complied. While we were able to have a few materials-team members intermittently on hand for the receiving of the remaining raw materials that were in transit from the supply chain, all long-term deliveries to *dynaCERT* were put on hold. The Ontario Government has released certain qualifying companies and services to re-open in a Staged process. On Wednesday, July 28, 2020, the Ontario Government released companies in the Greater Toronto Area (GTA) to begin work at midnight on July 31, 2020. *dynaCERT* recalled employees for Tuesday, August 4, 2020 after the statutory holiday and has been operational since this re-opening date.

In anticipation of a release from the government to restart and return to work, the Company had implemented COVID-centric policies and a daily acknowledgement to keep our employees safe as we worked together to re-commence shipping HydraGEN™ units to our customers for example:

1. Policy 817: statement outlining the daily activities every employee must adhere to regarding proper Personal Protection Equipment (PPE) and workspace distancing.
2. Policy 818 : guidelines and instruction on the proper use of PPE equipment
3. Policy 819 : guidelines on reporting illness while at work
4. Policy 820 : guidelines on maintaining sanitized workspace and equipment
5. Acknowledgement : daily record keeping of employees entering the facility and their health status.

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These policies were lifted by the Ontario Government on March 21, 2022 and restrictions on most public places were removed, except for public transit and health care settings. Remaining COVID-related restrictions are scheduled to terminate in Ontario on April 22, 2022.

The Company has maintained its staff and employees' payroll since the shutdown began. The Company has applied for and received \$1,009,539 in Government support for fiscal 2020 and has applied for \$596,688 for the year ended December 31, 2021.

The COVID-19 pandemic has continued to rapidly evolve and fluctuate throughout 2021, and the Company will continue to monitor the effects of COVID-19 on its business around the world. The extent to which COVID-19 may impact dynaCERT's business will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the emergence of variants of concern, the geographic spread of the disease, the duration and degree of future waves of infection, business closures or business disruptions, public health restrictions on travel and in-person interactions, and the effectiveness of action to contain and treat the disease in the United States, Mexico, Europe, South America, the Middle East and India, and the other markets where the Company may seek to offer its products. The Company cannot presently predict with accuracy the duration, scope and severity of any potential business closures or disruptions, or the overall effects of COVID-19 on its business over time. Though many shutdowns and restrictions have been lifted and businesses have re-opened in many parts of the world, future shutdowns or other business interruptions could result in material and negative effects on the Company's ability to conduct its business in the manner and on the timelines presently planned, which could have a material adverse impact on the Company's business, results of operation, and financial condition.

dynaCERT Facilities and Dealers

The Company operates in many jurisdictions around the world with owned facilities in Canada and through agents and dealers in Canada and internationally. The Company's headquarters are located in Toronto, Canada where accounting, sales, engineering, R&D, manufacturing and distribution operate. The Company, through its *dynaCERT GmbH* division, has an office and warehouse in Germany where it provides sales, engineering support, parts warehouse and quick-delivery services to its European clients of the HydraGEN™ family of products. In September 2021, *dynaCERT GmbH* moved to a new facility in Upper Bavaria.

With now 47 qualified agents and dealers operating in over 38 countries worldwide, the *dynaCERT HydraGEN™* line of products is ready to be presented to a market potential of more than 100,000,000 vehicles.

In 2021, the Company has signed the following new Dealers in the respective jurisdictions outlined below:

- 6TAVADA LDA, Portugal
- SSiE, Canada
- ESAMETAL S.r.l., Italy

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- SIMMAX Power Generation, Canada
- Simply Green Ltd, Canada
- 6TAVADA Iberica SL, Spain
- GridFix, Australia
- ACR Industrial Supplies, Colombia and Peru

Alltrucks GmbH & Co. AG, of Germany ("Alltrucks"), although restricted in 2021 due to the current COVID pandemic, has initiated promoting dynaCERT's HydraGEN™ technology to 300 of Alltrucks partner establishments in Germany with support and training for the Alltrucks partners provided thru the dynaCERT GmbH team.

KarbonKleen

On May 9, 2020, KarbonKleen Inc. ("KK" or "KarbonKleen") provided the Company with a purchase order for 3,000 HydraGEN™ technology units as part of its monthly subscription programme.

In Q1 2021, *dynaCERT* received purchase orders with advanced payment for twenty (20) of the Company's newest 2021 model HG1R units for the North American continental trucking customers of KarbonKleen which is furthering its successful trials to its trucking and logistics clients. This is not part of the subscription programme for 3,000 units noted above.

In November 2021, the Company announced the implementation of its flagship HydraGEN™ Technology and its telematics HydraLytics™ Technology by Sofina Foods Inc. ("Sofina") in Canada.

KarbonKleen has informed the Company that Sofina will expand their installation of dynaCERT's Technology from four (4) HydraGEN™ Technology units to twenty (20) units, with a goal of using dynaCERT's patented technology to improve the efficiency and reduce harmful emissions of diesel-powered engines. With Sofina's installation of a combined twenty (20) of dynaCERT's HG1 HydraGEN™ units, KarbonKleen will be featuring HydraLytics™ (dynaCERT's proprietary global software telematics technology) to its client.

Sofina has indicated that it will be installing this technology as part of its ongoing commitment to continuously improving the environmental impact of its operations and products. Sofina is well known for working with its customers and suppliers to find opportunities to minimize the environmental impact of their operations. Working with KarbonKleen to use dynaCERT's Technology is in alignment with those principals.

KarbonKleen has also indicated that although the relentless COVID economic slowdown has affected the initial deployment by KarbonKleen of its 3,000 HydraGEN™ unit commitment, KarbonKleen continues to offer attractive financing options to its clients under KarbonKleen's unique leasing programme. To date, KarbonKleen has received from DISH 12 units under the

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leasing programme and has purchased a total of 191 units, of which 31 units were in the 2021 financial year.

For a discussion regarding certain accounting treatments of the foregoing transactions, see "Loss on loans, investments, and prepayments" regarding the impairment of KarbonKleen investment and loan.

Galaxy Power Inc.

In June 2021, the Company agreed with Galaxy Power Inc. ("Galaxy Power"), a newly-formed Canadian private corporation, to advise Galaxy Power, from time to time, on general innovative Hydrogen Clean Technology advancements throughout Canada. *dynaCERT's* Hydrogen-On-Demand solutions, existing proprietary technology, patents, know-how and all future *dynaCERT* projects remain as *dynaCERT's* continued and exclusive focus outside the scope of Galaxy Power and are not affected in any way by this association. Galaxy Power is controlled by two directors and officers of the Company.

Galaxy Power is a newly formed single purpose vehicle set up exclusively for the purposes of advancing a pollution-free North America, focusing specifically on new Canadian Clean Technology developments and other forms of Clean Technology and related green fuels, unrelated to *dynaCERT's* HydraGEN™ Technology, with the mission of "Generating Ideals for Ideal Generations".

Galaxy Power's strategic corporate objectives are aimed at furthering a new Canadian hub of Clean Technology expertise in support of Canada's Clean Technology Industry and fostering efforts in lobbying for the growth of Canada's numerous and fast-growing Clean Technology enterprises especially through the rapid expansion of Canadian Government Incentives as they apply to Clean Technology.

Galaxy Power has expressed its intention to continue to develop, in a non-dilutive way to *dynaCERT*, its collaborative know-how and to deploy such knowledge to eventually possibly seed or participate in future advancements in the numerous businesses of the Hydrogen Economy. In consideration of the collaboration of *dynaCERT's* support and industry know-how, DISH (*dynaCERT's* wholly-owned subsidiary) invested \$250,000 for 20% of Galaxy Power's equity, thereby enabling *dynaCERT* and DISH to benefit and participate in the possible growth and eventual commercialization of new originations of Canadian proprietary Clean Technology with no future commitments by *dynaCERT* nor DISH.

The Company has accounted for the investment in accordance with IFRS 9, as the Company does not have significant influence over the investment.

For a discussion regarding certain accounting treatments of the foregoing transactions, see "Loss on loans, investments, and prepayments" regarding the loss on investment.

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Sparta Group

In August 2020, the Company signed a dealer agreement with Sparta Group's affiliate, TruckSuite Canada Ltd., and received a corresponding purchase order for the Company's HydraGEN technology products with a first commitment for 150 HG1 units. As has been the case with other purchase orders, fulfillment of this order has been delayed, largely due to COVID. As Sparta's clientele is primarily in the US, border restrictions have largely prevented this purchase order from carrying forward through 2021. The Company has remained in contact with Sparta management and Sparta management has confirmed their expectation that this purchase order would be fulfilled once the US border is re-opened fully. Of the 150 unit purchase order, Sparta has taken delivery of 10 units under this Order to date. With the US border having remained closed to cross-border traffic until November 8, 2021, the Company has not been able to estimate the timeline for delivery of the remaining 140 units under this purchase order, however conversations with Sparta management are continuing and timing is expected to become more apparent as border traffic eases and commercial operations return to normal expectations.

dynaCERT International Strategic Holdings Inc.

The Company has established a 100%-owned subsidiary called dynaCERT International Strategic Holdings Inc. ("DISH") to be used to support efforts worldwide with investments in strategically unique and exceptional CleanTech innovators directly related to dynaCERT's business, including a subscription programme of dynaCERT's HydraGEN™ technology to enhance end-user adoption. In a series of related transactions with KK, DISH has agreed to provide KK with HydraGEN™ technology units until December 31, 2021 in return for subscription revenue whereby KK continued to offer on a back-to-back basis a subscription programme to outfit large Canadian and USA trucking fleets with HydraGEN™ technology.

As its first investment, DISH invested a total of US \$1,092,000 in KK in a transaction whereby the Company owns, indirectly through DISH, twenty percent (20%) of KK and a Promissory Note from KK due December 31, 2021, bearing interest of 10% per annum. The purpose of this investment by DISH is to accelerate its market penetration and sales in the USA market which both *dynaCERT* and KK have determined is a growing priority in North America.

The investment in KK is accounted for as a significant influence investment under IAS 28, in the Company's consolidated financial statements.

During year ended December 31, 2021, the Company's share of the losses of KK of \$142,213, has been recorded in the consolidated statements of loss and comprehensive loss.

On December 1, 2021, the Company's directors resigned as directors of KarbonKleen. The Company still retains its rights under the shareholders agreement with KarbonKleen.

For a discussion regarding certain accounting treatments of the foregoing transactions, see "Loss on loans, investments, and prepayments" regarding the impairment of KarbonKleen investment and

loan.

United Nations Smart Sustainable Cities

In August 2020, the Company received the Smart Sustainable Company Rating Seal based on the results of the rigorous analysis of Triple-A Analytics GmbH of Austria ("Triple-A"). This honourable distinction of *dynaCERT* and our HydraGEN™ technology as it applies to the United Nations Sustainable Development Goals as well as United Nations Global Compact Principals has been evaluated as "high", the highest global ranking in its category.

In *dynaCERT's* Triple-A Smart Sustainable Company Evaluation, Triple-A reports that the United Nations Sustainable Development Goals and the Paris Climate Accord form the world's strongest common agenda for achieving peace and prosperity on a healthy earth.

The extraordinary Triple-A endorsement of *dynaCERT* allows our dealers to engage with cities with the assurance that the Company's HydraGEN™ technology has a significant contribution to the Sustainable Development Goals.

City of Woodstock and other Municipalities

In September 2020, the Company announced that it has agreed to equip diesel powered vehicles of the City of Woodstock, Canada ("Woodstock") with the Company's HydraGEN™ technology to reduce Carbon Emissions and reduce fuel costs. A conventional public transit bus and a recycling packer truck have had HydraGEN™ HG2R technology units installed. The duty cycles for these vehicles range from 8 hours to 16 hours per day and can be compared to other vehicles in the Woodstock fleet of a similar age and duty cycle. The Company has provided the City with the results of the recorded baseline carbon emissions (O₂, NO, NO₂, NO_x, CO, CO₂, Flue Temp) of the City's entire bus and garbage fleet and an estimate of the potential Greenhouse Gas reductions and fuel savings that can be realized. The City has indicated that it remains committed to a HydraGEN™ adoption of its fleet.

dynaCERT is also working with Provincial and Federal Governments, several municipalities and power utility providers across Ontario supplying quotes and extensive analyst reports for their fleets showing the potential fuel savings and more importantly the emissions reductions and Greenhouse Gas reductions that could potentially be realized with the utilization of HydraGEN™ "Carbon Emission Reduction Technology".

We are currently engaged in face-to-face discussions with municipalities such as City of Brampton, City of Timmins and City of Mississauga, as well as the Federal Government, about opportunities for pilot projects and the potential for deployment of our technology within government operations. This includes government staff and elected officials. One major power utility producer in Ontario has purchased an initial 15 units.

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Technology Validation, Certifications and Advancements

Independent testing with HG1 units now having the new DYA Smart ECU began in June 2017 at the North American-accredited PIT Group in Quebec. The PIT Group report found that the HydraGEN™ technology HG1 unit provided a 5.9% improvement in fuel consumption. Testing also proved that emissions were reduced significantly - CO by 48.1%, THC by 50.0%, and NOx by 46.1%, all of which exceeded our estimates.

The PIT Group wrote to *dynaCERT* in an email separate to the report: "...for any kind of automotive technology, 5.9 % fuel savings is a result to be envied".

In May 2018, the Company began testing for the Homologation Certification process of the Transport Ministry of Germany, Kraftfahrt-Bundesamt ("KBA"), in cooperation with TUV NORD and TUV SUD in Germany to Euro standards for an Allgemeine Betriebserlaubnis ("ABE") (the general operating permit) that is required for all equipment used on pan-Euro road vehicles. As reported in a press release dated September 24, 2018, while the dynamometer test showed an 8.9% fuel savings, separately, during the on- road break-in period after the baseline test, the on-board diagnostic (OBD) record of the 2018 MAN TGX 18-460 long haul truck with an HG1-45B showed a 20.1% average fuel savings for the 188 hours of tests, travelling through the mountainous terrain of southern Germany in a heavy load commercial operation.

In August 2019, the Company received the ABE Homologation from KBA.

The Company's "Smart ECU" has shown significant advantages and improvements over the older version of the ECU in several key areas: reading, collecting, storing and transmitting of data pertaining to fuel efficacy and emissions reduction; communicating with the engine's onboard computer; learning and altering the flow of gases produced; GPS capability; providing General Packet Radio Service ("GPRS") capability for remote access and allowing for future tracking and monitoring of Carbon Credits. This capability is aimed at providing users and *dynaCERT* with accurate data for which to promote, collect and use the carbon credits to a competitive financial advantage.

In July 2020, the Company reported that in the United Arab Emirates, where the Company has an active dealer, Castle Star General Trading LLC, the Company's products have received homologation of *dynaCERT*'s HydraGEN™ technology by way of seven (7) unique Certificates of Conformity and Schedules of Certification under the Emirates Conformity Assessment Scheme, based on recent TUV South testing in Germany. The Company's products can now be offered to numerous markets in Dubai and other parts of the UAE and the Middle East.

Research and Development Initiatives

Generally, the Company's HydraGEN™ Technology has depended entirely on R&D expenditures related to securing the Company's line of innovative patents, patents pending and associated global trademarks showcasing the Company's advancements in Hydrogen Technology.

More specifically, on the Company's HG1 models, the Company has reduced the number of unique parts from over 300 to under 210 in order to reduce costs (making the product more robust, easier to manage, assemble and service), enhanced the engineering of the HG1 to allow it to function in high temperature and low temperature climates and environments, enhanced safety features of the HydraGEN™ technology and made the product more user friendly, such as with the automatic distilled water filling mechanism.

On its HG2 models, the Company has developed these units to adapt *dynaCERT*'s HydraGEN™ Technology that was originally developed for the HG1 to work on smaller size diesel engines (under 8 litres of displacement and for refrigerated trailers "Reefers") in order to address a sizeable world market for such smaller engines.

Using the HydraGEN™ Technology, several years of R&D by the Company also resulted in the larger HGxC series of products, namely the HG4C and HG6C products, which are to be used primarily in heavy mining industry vehicles and construction equipment markets.

R&D expenditures have also consisted of expenditures that are required for PIT Group studies in Canada and subsequently for German Homologation and India's iCAT certification requirements.

dynaCERT also spent required R&D funds to develop its original Smart ECU and the current model Smart ECU2, developing both the hardware and related software and, over time, the related continuous enhancements, as well as reporting software, thereby providing alarms and warnings to both users and *dynaCERT* remotely in real time.

In furthering the functionality of the Smart ECU versions, *dynaCERT* also is developing its HydraLytics™ Telematics system and subsequent enhancements whereby users can monitor both carbon emission savings and fuel savings in real time of each vehicle outfitted with HydraGEN™ Technology units.

As more HydraGEN™ units are deployed in the field, *dynaCERT* continues its R&D to further enhance its line of HG1, HG2, HG4C and HG6C products and HydraLytics™ services to end users.

dynaCERT's HydraGEN™ electroliser has gone through a series of transformations over the past 17 years to meet the market demand. *dynaCERT*'s Alkaline Hydrogen HG3 electrolyzer is best suited for hydrogen applications up to a pressure of 15 bars and production capacity requirements of up to 500 L/hour. The stackable horizontal design makes it capable to meet higher hydrogen and oxygen demand.

dynaCERT's R&D Department is also developing a larger-volume AEM electroliser to produce Hydrogen Gas under pressure in larger quantities than its current HydraGEN™ technology. This has been done to date using current and available known technologies while R&D developed a unique Flow Field Plate and applied for a patent for this plate, which is unique to the industry. AEM technology, although not new to the industry, to date has not been widely used or understood.

Refer to ""Results of operations for the year ended December 31, 2021 compared to the year ended December 31, 2020", for a breakdown of expenditures on research and development initiatives.

PRODUCTS

HG1

dynaCERT's flagship product offering for the HG1 line includes the HG1B and HG1R models in both 12vdc and 24vdc versions, which targets the 10 to 15 litre diesel engines. These HG1 units are now in production and are outfitted with the latest SMART ECU2 controller. The Company has initiated a Continuous Product Improvement (CPI) program that is focused on making enhancements to the manufacturing operation to improve product quality. When operating at capacity, it is anticipated that the Company will be able to produce 6,000 HG1 units per month in its Toronto assembly facilities. New assembly line equipment has been engineered and was implemented in early 2020. The Company has also now implemented systems based on Automotive Industry Action Group (AIAG) and ISO standards. Each unit manufactured has real time traceability for all Quality Inspections performed and logged digitally to the Company's ERP database. All supplied significant components are also traceable to the source and quality checks are performed. Layered audits are performed regularly to ensure that the integrity of these processes are sustained. All customer feedback is reviewed by *dynaCERT's* Engineering group and vetted through the Company's formal engineering change process.

The upgrades to the HG1 feature fewer moving parts, less electrical connections, a simpler design and more user-friendly operation than the existing HG145 units that had been deployed since early 2017. *dynaCERT* continues to offer existing customers with the latest upgrades to ensure its continued goodwill with end-users.

HG2

The Company launched the marketing of its new HG2 line of on-board, on demand hydrogen delivery system for diesel engines in August 2019. After approximately two years of R&D, testing, verifications, modifications and re-designs, HG2R units with HydraGEN™ technology products are available and being shipped.

The HG2 unit is reduced in size from the HG1 unit. The HG2R unit is suited for smaller diesel engines than those that are specifically suited to the HG1 line of HydraGEN™ technology. The HG2R unit is designed to be appropriate for those displacement diesel engines used in Buses, Class 2 to Class 7 trucks, Refrigerator Trailers and Containers ("reefers"), Mobile Construction Equipment, Small Generators and Smaller Trucks commonly found outside of North America, such as in European countries and in India and Pakistan. This market size represents approximately 20 million applications in North America and similar sized market opportunities in each of the European and Asian markets.

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dynaCERT's engineers were successful in combining the benefits of two prototype HG2 models into one single more advanced and powerful model. The HG2R model includes a completely newly developed HydraGEN™ technology reactor design, a built-in water tank, a climate control system and *dynaCERT*'s Smart ECU2. Under normal operating conditions, the HG2R unit will produce hydrogen (H₂) gas flows suitable for diesel engines from 2 to 8 litres in displacement.

HG4C & HG6C

dynaCERT's product offering also includes the HG4C targeted for 40 to 60 litre engines, and the HG6C targeted for 60 to 100 litre engines, as used in the stationary generator market in mining applications and also for the large rock hauler trucks used in open pit mines for above ground mining. This comes as a result from many discussions with producing mining companies that are operating mines globally, that have set corporate goals to reduce their environmental footprint. These new models have multiple HG1 reactor units inside a single large case. They are outfitted with a large distilled water tank for longer use between refills. The cases are temperature controlled, in certain cases for up to +50C to as low as -40C functionality with availability of additional heating system. Each case has an air filtration system to reduce dust ingress.

As models are already custom configured to match the particular model and horsepower of the end user's engine, multiple units can even be ganged together for a single engine that is larger than 100 litres.

SALES

During the year ended December 31, 2021, the Company's sales continued to be significantly impacted by COVID-19 restrictions worldwide and the Company's dealers' inability to provide installation services. During the year ended December 31, 2021, the Company shipped 139 HydraGEN™ units respectively to dealers and clients. These sales mostly represent units bought and installed on larger fleets or companies that are running initial pilot projects while closely monitoring the fuel savings and emission reductions with the support of *dynaCERT* and our HydraLytics™ telematic software installed.

During the three months ended December 31, 2021, the Company recognized sales of \$200,222, and for year ended December 31, 2021, the Company recognized sales of \$757,002.

Global Mining Industry

In Q1 2021, *dynaCERT* shipped or received confirmed orders of its flagship HG1 HydraGEN™ technology units as well as its sister HydraGEN™ HG2R, HG4C and HG6C large capacity units to international mining companies operating in Russia, China, Chile, Brazil and Peru through sales to its arms-length dealer H2Tek which specializes in the sale of HydraGEN™ technology in the mining industry. H2Tek is sponsored internationally by Export Development Corporation, a Crown Corporation of Canada. *dynaCERT* has delivered HG units for above ground and underground mining machinery to a coal mining operating company in China. Operations such as diamond mines,

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coal mines, copper and gold mines are adopting *dynaCERT*'s proprietary HydraGEN™ technology globally. The HydraGEN™ HG4C and HydraGEN™ HG6C large capacity units have been deployed in open pit mining operations on large 50 & 68-litre diesel engines that operate in hostile climates where temperatures dip to -40 degrees Celsius and are located in very remote areas of the planet. Other major mining companies in South America and Australia are also trialing HydraGEN™ units where their open pit mine temperatures could reach +50C deep in the pit and with limited air ventilation causing air pollution inversions.

LEGAL MATTERS

The Company has filed a Statement of Claim with the Ontario Superior Court of Justice to recover cost associated with the loss due to the defective components, the work related to the redesign, and the delays in income related to business interruption in the total amount of \$47.7 million. Included in the amount claimed is \$46.8 million relating to the opportunity loss on potential sales of \$70.8 million to June 30, 2017.

The defendant has filed a Statement of Defence and the action is proceeding to discovery, however, the COVID-19 pandemic has resulted in a delay of the scheduled examinations. In January and again in September 2021, both parties held examinations for discovery and the Company awaits answers to undertakings and refusals including production of additional documents. A mediation of this dispute is anticipated to take place in April 2022.

BUSINESS DEVELOPMENTS

HydraLytics™ Telematics

In 2019 and 2020, the Company made significant advances of its telematics software in order to better demonstrate the effectiveness of its products to end-users.

dynaCERT formally launched its vehicle telematics device and software ("HydraLytics™") in July 2019, enabling easy access to fuel savings and carbon emission reduction reports from diesel-powered vehicles and machinery equipped with the Company's HydraGEN™ technology.

Now the Company provides its dealers and clients such as construction companies, truckers and fleet owners equipped with the HydraGEN™ technology with HydraLytics™ Telematics so that they can easily monitor from their computers an automatically-calculated savings of diesel and carbon emissions while the vehicle is in use.

HydraLytics™ receives data directly from a truck's on-board-diagnostic port (the "OBD port"), and communicates this data to *dynaCERT*'s cloud server remotely. At the time of activation of a HydraGEN™ unit the new software records, from the OBD data, the total lifetime mileage and lifetime hours used and calculates fuel consumed. Once the HydraGEN™ unit is operational, HydraLytics™ determines fuel consumption, average speed and distance traveled, and calculates

fuel savings and reductions of polluting emissions in kilograms of CO₂ equivalent ("CO₂e"). CO₂e is the basis of calculating Carbon Credits.

The HydraLytics™ software is designed to allow *dynaCERT* to provide documented proof to the market of the effectiveness of the HydraGEN™ technology as stated. Since the data used and processed is taken directly from a vehicle's OBD port, HydraLytics™ removes any doubts about the performance of the HydraGEN™ technology as it does not rely on any human interpretation which could possibly be biased. With HydraLytics™, users will receive viewable and written confirmation direct from their own diesel engines that its HydraGEN™ technology is working and have peace of mind regarding performance.

HydraLytics™ software also enables a user to access telematics information from any location equipped with an internet connection. The HydraLytics™ software also clearly displays historical daily and weekly travel data after the HydraGEN™ technology has been installed on a vehicle. HydraLytics™ continuously maps the routes and locations of vehicles, both in real time and historically, and displays when the vehicle is moving or stationary or when its ignition is off. The intuitive user-friendly software of HydraLytics™ allows truckers and fleet owners to review historical and current performance of their on-road and off-road vehicles.

DISH Telematics

In September 2020, *dynaCERT* International Strategic Holdings Inc. ("DISH"), a wholly-owned subsidiary of *dynaCERT*, Inc. entered into a 25-month Development and Royalty Agreement with Corsario Ltd. ("Corsario") and GP Logix Inc. ("GP Logix"), a wholly-owned subsidiary of Corsario, for the development of technology including software and hardware exclusively on behalf of DISH for its expansion into the FreightTech industry. As per the agreement, DISH agreed to license certain licensed products, on a non-exclusive basis, to GP Logix, subject to payment to DISH of 50% royalty on the net sales of GP Logix. The development of all proprietary right, title in and to the technology, intellectual property or work product, including all intellectual property rights therein, is to be assigned to, and owned by, DISH. *dynaCERT* views this as an opportunity to enter into the FreightTech industry as a supplementary evolution of services that fit naturally with *dynaCERT*'s fuel-savings and emission-savings market, while increasing the scope of applications and utility of its HydraLytics™ Technology (which measures and tract the fuel savings and greenhouse gas reductions (CO₂e) in real time for users). This is in response to the growing industry needs of logistics companies and the broader trucking management software ecosystem. For a discussion regarding certain accounting treatments of the foregoing transaction, see "Loss on loans, investments, and prepayments" regarding the impairment of the 25-month prepayment under this agreement.

Patents and Proprietary Technology

dynaCERT has several patent applications filed in the US, Canada and other parts of the world, and patents pending for different aspects of the HydraGEN™ technology. These are progressing through the normal patent application process. The Company's R&D team has made improvements to its

existing HydraGEN™ technology, and the Company has filed additional claims capturing those improvements.

Below are some of the key patents and patent applications in *dynaCERT's* patent portfolio:

Patents Granted

The Company now owns 9 distinct patents for different countries around the world.

On April 9, 2019, the Company was granted a US Patent number 10,253,685, called "Method & System for Improving Fuel Economy & Reducing Emissions of Internal Combustion Engines". The Canadian version (patent application number 2882833) of this patent was granted on June 4, 2019 and issued to the Company on September 17, 2019. A continuation application with additional claims to US Patent number 10,253,685 was filed on February 20, 2019 and a US Patent number 10,494,993 was issued on December 3, 2019. Another continuation application, (application number 16,661,575), which was filed on October 23, 2019, was issued a patent (patent number 10,883,419) on January 5th, 2021.

On September 3, 2019, the Company was also granted another key US Patent number 10,400,687, called "Management System and Method for Regulating the On-Demand Electrolytic Production of Hydrogen and Oxygen Gas for Injection into a Combustion Engine", which is referred to by the Company as the "Smart ECU patent". The embodiments of this US Patent relate to a management system and method that can simultaneously reduce polluting emissions and improve the performance of an internal combustion engine by: determining *dynaCERT's* reactor performance level or calculating the amount of gas being generated by *dynaCERT's* on-demand electrolytic reactor; monitoring the engine performance level, determining whether the engine performance level would change (i.e. decrease or increase), or remain the same to forecast a future engine demand level; adjusting the reactor performance level to improve the engine performance ahead of the forecast future engine demand level materializing to minimize parasitic loss associated with reactors operating continuously (i.e. reactors that are not capable of adjusting their performance level or the level of produced gas according to the real time engine performance level) and, thereby, improving the engine performance and reducing emissions.

Following a PCT application in 2017, patent applications have been filed in Canada and other countries and are awaiting review. The Mexican application has been granted and patent number 380442 has been issued. The Russian application has also been granted and patent number 2748712 has been issued.

The EPO (European Patent Office) application (application number 17862395.5) has been allowed, and the patent has been registered in Germany, France & the UK. The fees have been paid and we are waiting for the patents to be issued.

Additionally, the applications that were filed in Israel (265880), Saudi Arabia (519401612) and China (201780065362) have been allowed.

Patent Applications

Some of the significant patent applications are described below.

Two continuation applications (number 16,514,460 and number 16,514,543), claiming the benefits of the US Patent number 10,400,687 ("Management System and Method for Regulating the On-Demand Electrolytic Production of Hydrogen and Oxygen Gas for Injection into a Combustion Engine") were filed on July 17, 2019. These applications have been granted, and patent number 10934952 and patent number 10961926 have been issued. Another continuation application (application number 17184005) which was filed on February 24th, 2021, has been allowed. The fees have been paid and we are waiting for the patent to be issued.

Following a PCT Application in 2018 entitled "Systems and Methods for Tracking Greenhouse Gas Emissions Associated with an Entity", patent applications have been filed in Canada, USA and several other countries around the world. This application (PCT/CA2018/051235) is a method to securely and accurately capture and transmit data on greenhouse gases associated with the following: Residential Entity (single-family residence, townhouse, condo, apartment building), Industrial Entity (factory), Commercial Entity (medical building, educational institution), Power Generation Entity, Railway Entity, Marine Entity, Aviation Entity, On-Road & Off-Road Entities (trucks, cars, buses, ATVs), Agricultural Entity (tractors, combines, barns). The Company also included fertilizers, pesticides and other chemicals and carcinogens in its patent scope. *dynaCERT's* data collector, the Smart ECU, when attached to the emission source by way of sensors or any other measuring devices, can directly measure emissions output.

When the data is collected for the first time, it goes through a series of validation processes in order to determine an emission offset measurement based on an emission baseline. The output data is encrypted and then transmitted to a portal or platform where the data is analyzed to determine any changes in emissions output to validate compliance, determine amount of greenhouse gas credit or offset such as Carbon Credits required for trading.

The US application number 16837032 has been allowed. The fees have been paid and we are waiting for the patent to be issued.

Carbon Credits

Management believes that there exists an opportunity to monetize carbon credits from the HydraGEN™ technology operating on diesel engines. Toward this goal, the Company's patented "Smart ECU" can allow the receipt of allocated Carbon Credits through a European platform which is consistent with the requirements resulting from the Paris Accord.

In recognition of the importance of Carbon Credits, *dynaCERT* has entered into a contractual agreement with International Environmental Partners Limited ("EP") of the UK and its President, Ms. Monika Wojcik, to manage two different but significant *dynaCERT* applications in the certification of the carbon reductions generated by its HydraGEN™ technology: (a) VERRA a highly

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recognized international certification organization based in Washington, DC; and, (b) the Clean Development Mechanism (CDM) for developing countries which has been administered globally since April 6, 2007 by the United Nations offices in Bonn, Germany, and which bases its criteria as a result of an EU Directive 92/57/EEC (OJ L245, 26.8.92) in the Kyoto Protocol (see Press Release dated June 7, 2018). EP is a Sustainability Advisor, Carbon & Biomass trader with relevant knowledge and data of over 15,000 carbon projects from all over the world. *dynaCERT*, working with these consultants, is placing its products in the front line to help HydraGEN™ technology end-users earn Carbon Credit Certificates from the emissions reductions in the transportation industry, a world-wide leading origination that has not been previously possible.

In November 2019, *dynaCERT* announced that the advancement of its application for a new Carbon Emission Reduction Methodology to develop Carbon Credit projects from its HydraGEN™ technology and HydraLytics™ Telematics abilities to reduce carbon emissions on a world-wide basis. With the support of EP, the Company has completed and submitted the application to develop a new Methodology to obtain Carbon Credits from the planned Carbon Credit projects which would be made available to *dynaCERT* clients. The application, submitted to Verra (www.terra.org) under its VCS programme, specifies an all-new Carbon Emission Reduction Methodology. The proposed Methodology uses the Company's patented HydraGEN™ technology to lower carbon emissions and its HydraLytics™ Telematics technology to securely record carbon emissions and other non-personal data from diesel and gas engines. (see Press Release of June 7, 2018). Verra has furthered the application through multiple internal reviews and has submitted to the Company subsequent questions and concerns.

In January 2021, *dynaCERT* announced that Verra has approved the concept note of the Company that is designed to secure Carbon Credits by deploying *dynaCERT's* patented HydraGEN™ technology and HydraLytics™ Telematics on a global basis. Verra is preparing the documentation as well as independent 3rd party auditing, which is required prior to the final approval of the methodology for collecting and trading of the carbon credits.

On October 18, 2021, *dynaCERT* announced that the executive management of Verra, which manages the world's largest greenhouse gas program, the Verified Carbon Standard, has announced to *dynaCERT* that its Methodology in respect of its Carbon Credit Certification has reached a new important stage. As part of its normal required process of certification, Verra has advanced *dynaCERT's* Carbon Credit Methodology to its Global Public Comment Stage in order to meet Verra's Verified Carbon Standard. Verra has indicated that: "This Methodology applies to project activities that improve efficiency of vehicle fleets and mobile machinery (e.g. fleets of trucks, buses, cars, taxis or motorized tricycles, excavators, cranes), resulting in reduced fuel usage and GHG emissions. This Methodology is globally applicable."

On March 17, 2022 notification was received by the senior programme officer of Verra that Verra posted the request for proposals for the Validation/Verification Body (VVB) on its website and has sent it out to the list of accredited VVBs. The accredited VVBs had until the 30th of March to submit

proposals. Verra will send *dynaCERT* the VVBs proposals and then will work with *dynaCERT* to select an appropriate VVB. *dynaCERT* will then be able to begin the assessment process.

Martin Technologies LLC

In January 2021, the Company announced that it has agreed to partner with Martin Technologies LLC to collaborate on scientific expansions required to introduce *dynaCERT*'s HydraGEN™ technology to Original Equipment Manufacturers globally. Upon completion of phase one of the ongoing testing and validation of the science behind *dynaCERT* technology, it was verified that the introduction of the Hydrogen and Oxygen gases produced and delivered from the HydraGEN™ unit did improve fuel efficiency. Martin Technologies determined that further work is warranted to overcome certain sensors causing the engine's computer under some conditions to override the benefits of the gases introduced. Mr. Harold Martin, the CEO of Martin Technologies LLC, also joined the advisory board of *dynaCERT*.

PERFORMANCE MILESTONES AND VERIFICATION UPDATE

New trial programs in mining and transport sectors were started in the quarter to further verify the HydraGEN™ technology to satisfy potential customers on their own transport, equipment and power generation systems. These programs are continuously ongoing.

European Homologation

In August 2019, *dynaCERT*'s wholly-owned European subsidiary, *dynaCERT* GmbH obtained from Kraftfahrt-Bundesamt ("KBA"), the Transport Ministry of Germany, the Allgemeine Betriebserlaubnis ("ABE") National Type Approval ("Homologation"). ABE Homologation, which emanates from KBA, permits the marketing, sales, installation and use of *dynaCERT*'s HydraGEN™ technology in Germany and is utilized throughout the entire European Union under the Convention of Road Traffic (1968).

Applications for ABE Type Approval must meet stringent testing and validations required by rigorous and exacting regulation in Germany. *dynaCERT*'s HydraGEN™ technology is the only hydrogen gas supply system that has ever been approved by KBA and received Homologation for the ABE Type Approval. This unique advantage gives *dynaCERT* a lead in hydrogen-based technology and provides a strong market benefit as well as a barrier to entry for imitators and possible competitive technologies. The addressable market of *dynaCERT*'s HydraGEN™ technology has expanded significantly and globally with the addition of this first-in-kind ABE Homologation.

As a result of its reputation for excellence, the acceptance of an ABE Homologation is monitored by other countries on every continent of the globe. In regulating their transportation industry, many countries and jurisdictions world-wide rely on the ABE Homologation as the unequivocal standard of due diligence and excellence for the regulated use of new expertise, such as *dynaCERT*'s HydraGEN™ technology.

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dynaCERT's HydraGEN™ technology underwent thorough testing to obtain ABE Homologation. Moreover, the ABE Homologation from KBA required approximately 26 months of proofs of concept, testing, validations, verifications, confirmations, authentications, rigorous trials with strict protocols, scientific analysis, exacting reviews using both on-road and in-laboratory methods and accompanying certified reports. Numerous engineers, combustion specialists and automotive experts, including world-renowned authorities in Europe such as Continental EMITEC, TÜV Nord, TÜV Süd, were consulted and relied upon by KBA in granting the ABE Homologation.

The new HG1R24 and HG2R24 Euro-versions of the HydraGEN™ technology have completed and passed the EMC and mechanical testing and the testing submissions have been sent to the KBA for finalization of what is termed in Germany as a 'Delta Approval' which is required when products that have already passed ABE Certification get upgrades from the manufacturer. The 'Delta Approval' consists of routine electrical and mechanical tests and do not require the testing, validations, verifications, confirmations, authentications, rigorous trials with strict protocols, scientific analysis, exacting reviews using both on-road and in-laboratory methods and accompanying certified reports as were conducted by Continental EMITEC, TÜV Nord for the original ABE certification.

On November 10, 2021, the Company was informed by the KBA that the Delta Approval for the HG1 has been released.

Austrian Adoption

In advance of receiving KBA Homologation ABE for Europe, *dynaCERT* secured permission to install units on government-owned vehicles in Austria. In 2019, the Province of Carinthia ordered and installed two of four HydraGEN™ HG1-45B units on diesel-powered heavy-duty road service vehicles owned by the Province of Carinthia. The office of the provincial government of Carinthia, in consultation with the Road and Maintenance Department and *dynaCERT*, extended the pilot project in Carinthia.

In September 2020, two MAN Euro VI dump trucks of the province's public services were equipped with the HydraGEN™ technology. The installation was executed by *dynaCERT* GmbH in conjunction with one of our European dealers, Freetron, and the results are being monitored for emission and fuel reductions.

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RESULTS OF OPERATIONS

Results of operations for three months ended December 31, 2021 as compared to the three months ended December 31, 2020

The Company reported a comprehensive loss from operations for three months ended December 31, 2021 of \$6,399,220 compared to \$2,653,875 for the three months ended December 31, 2020. Revenue increased by \$101,974 during the current period compared to the prior period. See Sales section.

Key influencers to the increase in expenditures are:

- As the Company did not qualify for CEWS during the three months ended December 31, 2021, during the three months ended December 31, 2020, the Company received funds for CEWS, as a result expenditures increased by \$617,077.
- Wages and salaries increased by \$460,861, majority of this increase was due to additional compensation paid to a former officer.
- During the three months ended December 31, 2021 the Company recognized a loss on loans, investments, and prepayments of \$3,481,776. Refer to section "Loss on loans, investments, and prepayments".
- During the three months ended December 31, 2021 cost of goods sold increased by \$1,463,951 as the Company determined that current years wages were directly related to the production of HydraGEN™ products by specific employees.

Key influencers to the decrease in expenditures are:

- Research and development costs decreased by \$1,060,133 in the current period compared to the prior period, as the Company's direct salaries related to cost of goods sold for HydraGEN™ products in the current year. In the prior year, salaries directly related to research and development.
- Business development costs decreased by \$1,453,591 in the current period compared to the prior period as certain current year expenses related to research and development, and expenses to loss on loans, investments, and prepayments. In the prior year, these expenses directly related to business development initiatives.

Research and development expenditures vary depending on amount of work being done on product development and testing. To date, the Company has expensed all research and development costs. For a further discussion regarding the Company's R&D initiatives. See "Research and Development Initiatives" herein.

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Results of operations for year ended December 31, 2021 as compared to the year ended December 31, 2020

The Company reported a comprehensive loss from operations for year December 31, 2021 of \$16,324,637 compared to \$13,725,049 for the year ended December 31, 2020. Revenue increased by \$289,392 during the current year compared to the prior year. See Sales section.

Key Influencers to the increase in expenditures are:

- As the Company did not qualify for CEWS for a portion of the year ended December 31, 2021, and received more CEWS during the year ended December 31, 2020, as a result expenditures increased by \$412,851.
- Wages and salaries increased by \$503,530, the majority of this increase was due to additional compensation paid to a former officer.
- During the year ended December 31, 2021, cost of goods sold increased by \$1,774,765 as the Company determined that current years wages were directly related to the production of HG products by specific employees.
- During the year ended December 31, 2021, the Company recognized a loss on loans, investments, and prepayments of \$3,481,776. See section "Loss on loans, investments, and prepayments" for more details.

Key influencers to the decrease in expenditures are:

- Research and development costs decreased by \$1,739,857, as the Company's direct salaries related to cost of goods sold for HydraGEN™ products in the current year. In the prior year, salaries directly related to research and development.
- Business development costs decreased by \$541,663 as certain current year expenses related to research and development, and expenses to loss on loans, investments, and prepayments. In the prior year, these expenses directly related to business development initiatives.
- A decrease in share-based compensation expense of \$608,795 in the current period compared to the prior period, as a result of vesting conditions, inputs into the Black-Scholes model, and the number of stock options granted. During the year ended December 31, 2021, the Company granted 8.81 million stock options compared to 7.14 million in the comparative period, and cancelled 532,000 options with a Black Scholes value of \$322,395.

Research and development expenditures vary depending on amount of work being done on product development and testing. To date the Company has expensed all research and development costs. For a further discussion regarding the Company's R&D initiatives, see "Research and Development Initiatives" herein.

The following tables provide a breakdown of the Company's expenditures on R&D initiatives by product and component for the year ended December 31, 2021.

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Total by component	Amount
Material	\$ 1,727,972
Labour	701,242
Overhead	418,284
Total	\$ 2,847,498

Total by product	Amount
Hydralitica	\$ 1,300,872
AEM Electroliser	661,866
HG1 & HG2	884,760
Total	\$ 2,847,498

The Company's system for developing the breakdown of the Company's expenditures on R&D initiatives is prepared on a manual basis and not from the Company's internal computer systems. On a prospective basis, the Company will provide this information on a quarterly basis, as the internal systems will provide the details for this presentation, which are not available in respect of the year ended December 31, 2021.

Loss on loans, investments, and prepayments

The Company incurred the following losses on loans, investments, and prepayments:

Related party transactions

- During fiscal 2020 and fiscal 2021, the Company entered into a series of loans in connection with the exercise of stock options ("Option Loans"), including a loan in the principal amount of \$340,000 to a director and officer of the Company and a loan in the principal amount of \$199,238 to an employee of the Company. During fiscal 2021 these individuals sold the underlying securities relating to their respective Option Loans. The Company recognized a loss on these unsecured Option Loans after considering the creditworthiness of the debt holders, and the Company's recourse options.
- The Company advanced a subordinate loan in the form prescribed in Appendix B of National Instrument 31-103 in the principal amount of \$150,000 to Galaxy Placements Inc., a company controlled by a director and officer of the Company that applied to become an Exempt Market Dealer, and in addition, the Company acquired 20% of the issued and outstanding shares of Galaxy Power Inc. for consideration of \$250,000. Galaxy Power Inc. is a company controlled by two directors and officers of the Company. The Company recognized a loss on both the investment and the loan after considering the lack of security for the loan, there was no

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provision for a payment plan between the debt holder and the Company, and no foreseeable future economic benefit is expected on the investment.

Other transactions

- During fiscal 2020, the Company acquired 20% of the issued and outstanding shares of KK for consideration of US\$367,000. Additionally, the Company provided a loan to KK in the principal amount of US\$725,000. The Company has recognized a loss on the balance of the investment in KK of \$470,299, and a loss of \$976,459 for expected credit losses related to the loan with KK as the Company decided that it would no longer fund KK as KK does not appear to have, nor is it expected to have, the financial capacity to repay the loan and the investment.
- dynaCERT International Strategic Holdings Inc. (DISH), a wholly-owned subsidiary of dynaCERT, entered into a "25 month Development and Royalty Agreement" with Corsario Ltd. and GP Logix Inc., a wholly-owned subsidiary of Corsario of Mississauga (Canada), pursuant to which it made a prepayment of \$1,300,000. The Company recognized a loss on this amount as the work product being developed has not advanced as expected by the Company, resulting in significant uncertainty of the future economic benefit of the work product.

The Company's audit committee has engaged independent legal counsel to assist them in examining the validity, legal standing, enforceability, and potential future recoverability of the above noted related party and other transactions.

LIQUIDITY AND CAPITAL

As at December 31, 2021, cash on hand was \$8,337,506 as compared to \$18,836,013 at December 31, 2020.

The Company had cash outflows from operating cash flows of \$8,659,758, which was due to net loss of \$16,324,637, which was affected by non-cash adjustments of \$7,382,118, which is comprised of accretion and amortization of \$903,717, stock-based compensation of \$2,861,197, loss on investment in associate of \$142,213, foreign exchange loss of \$77,150, interest paid of \$165,991, loss on loans, investments, and prepayments of \$3,481,776, and offset by accrued interest of \$249,926. Operating cash flows were affected by non-cash working capital items of \$282,761 which comprised an increase in amounts payable and other liabilities of \$492,512, by a decrease in accounts receivables and sales tax receivables of \$422,175, and offset by an increase in prepaid expenses of \$114,239, an increase in inventory \$444,369, a decrease in deferred revenue \$73,318.

The Company had cash outflows from investing activities of \$1,409,156, which was due to acquisition of property and equipment of \$620,430, acquisition of intangible assets of \$388,726, and an investment of \$250,000 in Galaxy Power, a loan to Galaxy Placements of \$150,000.

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The Company had cash outflows from financing activities of \$429,593, which was funds from exercise of options of \$94,800, and offset by repayment on a promissory note of \$76,086 and lease obligation of \$448,307.

As at December 31, 2021, employees, officers, and directors of the Company had loans granted by the Company in the aggregate amount of \$368,312 (December 31, 2020 - \$567,549). The loans are non-interest bearing and due on demand (refer to section "Loss on loans, investments, and prepayments").

As at December 31, 2021, the Company had deposits of \$nil (December 31, 2020 - \$1,233,960) with Corsario Limited for software development related to development of its HydraGEN™ Technology, HydraLytics™ Technology, and Carbon Credit Data Technology (refer to section "Loss on loans, investments, and prepayments").

The Company expects to be financed primarily through the completion of equity transactions such as equity offerings and the exercise of stock options and warrants. There is no assurance that future equity capital will be available to the Company in the amounts or at the times desired by the Company or on terms that are acceptable to it, if at all. See "Caution Regarding Forward Looking Statements", and "Risks and Uncertainties".

On June 18, 2020, the Company completed a public offering of common shares which raised proceeds of \$8,367,400. The following table sets forth a comparison of the disclosure regarding the Company's intended use of proceeds set out in the Company's short form prospectus dated June 15, 2020 adjusted for the overallotment and the estimated use of proceeds as of December 31, 2021:

Use of Proceeds	Allocation of Net Proceeds	Amount Spent	Remaider to be Spent
Financing raw materials and manufacturing and assembly costs in order to create and deliver finished goods inventory for the KarbonKleen subscription program and any other subscription programs or other product sales	\$ 5,839,440	\$ 3,349,039	\$ 2,490,401
Working capital and general corporate purposes	2,527,960	2,527,960	-
Total	\$ 8,367,400	\$ 5,876,999	\$ 2,490,401

As at December 31, 2021, the Company has sufficient cash, and intends to spend the funds available to it as stated above, if specific items in operations are deferred with the agreement of the specific vendor, consultant or employee. If specific operating items are not deferred, or negotiated the Company may need to raise more funds to complete the use of proceeds objective as disclosed in the table above.

However, there may be circumstances where, for sound business reasons, a reallocation of the net proceeds of the June 18, 2020 offering may be necessary. The actual amount that the Company

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spends in connection with each of the intended uses of proceeds will depend on several factors, including those referred to under "Risks and Uncertainties" in this MD&A.

The reopening of the North American economy is driving a steel boom. While the Company's products use mainly stainless steel the general increase applies to all steel products. This will potentially affect the cost of goods sold for the foreseeable future.

The Company may need to adjust the timeframe for meeting various business objectives and milestones depending on the availability of funds. Notwithstanding the proposed uses of available funds as discussed above, there may be circumstances where, for sound business reasons, a reallocation of funds may be necessary. It is difficult, at this time, to definitively project the total funds necessary to affect the planned activities of the Company. For these reasons, it is considered to be in the best interests of the Company and its shareholders to afford management a reasonable degree of flexibility as to how the funds are deployed among the uses identified above, or for other purposes, as the need arises. Further, the above uses of available funds should be considered estimates.

Based on the rate of expenditure above, the Company will have sufficient cash to fund its operations for the twelve months ended December 31, 2022, if use of proceeds objectives are delayed or specific operational items are deferred or negotiated.

As at December 31, 2021, the Company had accounts payable and accrued liabilities of \$1,328,005 as compared to \$835,493 at December 31, 2020.

Going concern uncertainty

At each reporting period, management assesses the basis of preparation of the financial statements. These financial statements have been prepared on a going concern basis in accordance with IFRS. The going concern basis of presentation assumes that the Company will continue its operations for the foreseeable future and be able to realize its assets and discharge its liabilities and commitments in the normal course of business. These financial statements do not include any adjustments to amounts and classifications of assets and liabilities that would be necessary should the Company be unable to continue as a going concern. Such adjustments could be material.

For the year ended December 31, 2021, the Company incurred a net loss of \$16,324,637 (year ended December 31, 2020 - \$13,725,049) and had negative operating cash flows of \$8,659,758 (December 31, 2020 - \$11,434,650). Although the Company has generated revenue from customer sales, the sales volumes achieved to date have not been significant and has not generated sufficient margins to cover the Company's operating costs and research and development costs. The Company has an accumulated deficit of \$91,049,274 since inception (December 31, 2020 - \$76,591,227).

The Company's ability to continue its operations and to realize assets at their carrying values is dependent upon its ability to generate cash flows from operations and to complete negotiations to obtain and successfully close additional funding from debt financing, equity financings or through

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other arrangements. While the Company has been successful in arranging financing in the past, there can be no assurance the debt financing or any equity offering will be successful in light of the impact of the COVID-19 on the global capital markets. Management has determined that there is a material uncertainty related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern and, therefore, that it may be unable to realize its assets and discharge its liabilities in the normal course of business.

The rapid spread of COVID-19 worldwide has caused significant economic contraction and uncertainty, resulting in delays in sales.

The military conflict between Russia and Ukraine may increase the likelihood of supply interruptions and political instability worldwide. Such disruptions could make it more difficult for the Company to source necessary materials and service providers at favorable pricing or at all. While it is difficult to estimate the impact of current or future European or other sanctions on the Company's business and financial position, these sanctions could adversely impact the Company's sales, costs, operations and/or development activities in future periods.

RELATED PARTIES TRANSACTIONS

Key management includes directors and other key employees, who have authority and responsibility for planning, directing, and controlling the activities of the Company.

The Company paid or accrued the following amounts to directors, companies controlled by directors or companies having common directors during the year ended December 31, 2021 and December 31, 2020:

Nature of Transaction	Year Ended December 31,	
	2021	2020
Consulting fees paid to directors	\$ 667,623	\$ 546,990
Short-term benefits	264,000	547,329
Share based compensation	882,980	1,883,149
Rent	181,845	240,842
Total	\$ 1,996,448	\$ 3,218,310

The Company has a lease agreement with a former director of the Company, the amounts included in the table above are inclusive of the period while the former director, was a director of the Company.

Included in prepaid expenses as at December 31, 2021 is \$22,854 (December 31, 2020 - \$124,465) for advance payments of salaries to an officer and director of the Company. These services were provided in fiscal 2021.

Included in other receivables as at December 31, 2020 was a loan in the amount of \$362,350 bearing

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interest at 2.1% per annum receivable from an entity controlled by an officer and director of the Company. During the year ended December 31, 2021, the director repaid the loan. Total interest income earned on the loan amounted to \$6,975 for the year ended December 31, 2021 (year ended December 31, 2020 - \$19,325).

Included in other receivables as at December 31, 2021, was a \$150,000 subordinated note receivable from Galaxy Placements Inc. a company controlled by an officer and director of the Company. The note bears interest at 10% per annum and matures on December 31, 2023 (refer to section "Loss on loans, investments, and prepayments").

In July 2021, the Company acquired 20% of the shares of Galaxy Power, a private Canadian corporation, for \$250,000, as the investment represents a 20% holding in issued and outstanding common shares of Galaxy Power (refer to section "Loss on loans, investments, and prepayments"). Two directors of the Company control and are directors of Galaxy Power.

As at December 31, 2021 included in construction in progress is \$nil (December 31, 2020 - \$701,880) of renovation expenditure paid to an entity controlled by the family of an officer and director of the Company. During the year ended December 31, 2021, the Company incurred renovation expenditures of \$689,211. As construction on the leasehold was completed and these amounts were transferred to Leasehold improvements.

During the year ended December 31, 2021, a loan of \$340,000 was granted to an officer and director of the Company (refer to section "Loss on loans, investments, and prepayments").

During the year ended December 31, 2021, an officer and directors of the Company exercised stock options pursuant to which they acquired an aggregate of 425,000 (December 31, 2020 - 600,000) common shares (refer to section "Loss on loans, investments, and prepayments").

As at December 31, 2021 loans to key employees, officers, and directors were outstanding to the Company in the aggregate amount of \$210,000 (December 31, 2020 - \$210,000) relating to share capital. The loans are non-interest bearing and due on demand.

SEGMENTED INFORMATION

The Company currently has one business segment, being the development, production and sale of hydrogen generating systems. dynaCERT has developed the next generation of Carbon Emission Reduction Technology for diesel engines in the global market, that also provides significant fuel savings to the operator. The Company's HydraGEN™ Technology uses simple electrolysis to turn distilled water into H₂ & O₂ gases that are produced on demand.

As at December 31, 2021, the Company held \$39,721 of cash (December 31, 2020 - \$63,360) and during the year ended December 31, 2021 incurred \$416,776 (December 31, 2020 - \$988,632) of expenses in Germany through its German subsidiary. The Company's subsidiary DISH holds the shares in the Company's investment in KarbonKleen.

OFF BALANCE SHEET ARRANGEMENTS

The Company is not a party to any off-balance sheet arrangements or transactions.

SHARE CAPITAL TRANSACTIONS

During year ended December 31, 2021, the Company had 970,000 stock options exercised in the period providing additional liquidity to the Company.

CAPITAL MANAGEMENT

The Company's shareholders' equity comprises its capital under management. The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to pursue the development of its products and to maintain a flexible capital structure that optimizes the costs of capital at an acceptable risk level.

The Company manages the capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. To maintain or adjust the capital structure, the Company may attempt to issue new shares, issue new debt, acquire or dispose of assets.

In order to facilitate the management of its capital requirements, the Company prepares expenditure budgets that are updated as necessary depending on various factors, including successful capital deployment and general industry conditions. The Board of Directors does not establish quantitative return on capital criteria for management, but rather relies on the expertise of the Company's management to sustain future development of the business.

There have been no changes to the Company's approach to capital management during the year ended December 31, 2021. The Company is not subject to externally imposed capital requirements.

FINANCIAL INSTRUMENTS (MANAGEMENT OF FINANCIAL RISKS)

Fair value

The Company has established a fair value hierarchy that reflects the significance of inputs of valuation techniques used in making fair value measurements as follows:

Level 1 - quoted prices in active markets for identical assets or liabilities;

Level 2 - inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. from derived prices); and,

Level 3 - inputs for the asset or liability that are not based upon observable market data.

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The carrying values of cash and cash equivalents, accounts and other receivables, and accounts payables and accrued liabilities approximate their fair value due to their short-term nature, and are classified at amortized cost that would be categorized as Level 1 in the fair value hierarchy above.

The carrying values of long term receivables note receivables from related party and promissory note is approximately equal to its carry value as future payments or receivables from instalments have been discounted and that would be categorized as Level 3 in the fair value hierarchy above.

The investment in Galaxy Power Inc. is an investment in a private company that would be categorized as Level 3 in the fair value hierarchy above. The Company valued the investment in Galaxy Power Inc. using the value in use approach.

At December 31, 2021, and 2020, there were no financial assets or liabilities measured and recognized in the consolidated statements of financial position at fair value that would be categorized as Level 2 in the fair value hierarchy above.

There were no transfers between Level 1, Level 2, and Level 3 during the years ended December 31, 2021, and 2020.

Credit risk

Credit risk is the risk of potential loss to the Company if a counter party to a financial instrument fails to meet its payment obligations. The Company is exposed to credit risk with respect to its cash and accounts receivable and other receivables. The Company's credit risk is primarily attributable to cash and receivables. Management believes that the credit risk concentration with respect to cash and receivables is remote as it maintains accounts with highly rated financial institutions.

Liquidity risk

Liquidity risk is the risk that the Company may encounter difficulty in satisfying financial obligations as they become due. The Company manages its liquidity risk by forecasting cash flows from operations and anticipated investing and financing activities. At December 31, 2021, the Company had current liabilities of \$1,891,784 (December 31, 2020 - \$1,146,875) and cash and receivables of \$8,782,960 (December 31, 2020 – \$19,561,682).

Based on the current funds held, the Company may need to raise additional funds to meet its obligations.

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The maturity analysis of financial liabilities as at December 31, 2021 is as follows:

	Less than 1 year	1-3 years	3-5 years	Greater than 5 years	Total
Accounts payable and accrued liabilities	\$ 1,328,005	\$ -	\$ -	\$ -	\$ 1,328,005
Deferred revenue	160,124	-	-	-	160,124
Lease obligations	403,655	880,329	527,262	-	1,811,246
Total	\$ 1,891,784	\$880,329	\$527,262	\$ -	\$ 3,299,375

Market risk

Market risk is the risk of loss that may arise from changes in market factors such as interest rates, foreign exchange rates and commodity prices. The Company is not exposed to any significant interest risk volatility.

SUBSEQUENT EVENTS

On January 5, 2022, and February 15, 2022, the Company announced the resignation of Mr. Robert Maier, and Mr. Stephen Kukucha, respectively from the Board of Directors.

OUTSTANDING SHARE DATA AS OF April 4, 2022

The Company has 381,484,180 common shares outstanding as of the date of this report.

Below is a summary of the warrants outstanding as of the date of this report:

Expiry Date	Unit Price	Ending Quantity	\$ Value
June 18, 2022	1.00	6,152,000	6,152,000
June 18, 2022	0.68	598,260	406,817
November 14, 2023	0.65	14,900,000	9,685,000
		21,650,260	16,243,817

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Below is a summary of the stock option outstanding as of the date of this report:

Expiry Date	Exercise Price (\$)	Weighted Average Remaining contractual life (years)	Number of options outstanding
September 19, 2022	\$0.58	0.47	1,000,000
October 23, 2022	\$0.65	0.56	1,166,000
January 31, 2023	\$0.50	0.84	3,770,000
April 5, 2023	\$0.50	1.02	238,096
October 4, 2023	\$0.25	1.53	316,000
March 1, 2024	\$0.38	1.94	4,059,210
May 15, 2024	\$0.35	2.15	250,000
July 30, 2024	\$0.50	2.36	600,000
September 9, 2024	\$0.50	2.48	500,000
October 11, 2024	\$0.50	2.56	50,000
November 12, 2024	\$0.50	2.65	882,000
December 9, 2024	\$0.52	2.73	2,804,500
December 17, 2024	\$0.55	2.75	400,000
July 2, 2025	\$0.70	3.29	5,255,000
July 2, 2025	\$0.70	3.29	1,145,000
August 4, 2025	\$0.70	3.39	200,000
October 30, 2025	\$0.55	3.63	100,000
January 1, 2026	\$0.55	3.87	850,000
May 30, 2026	\$0.50	4.22	7,960,000
			31,545,806

dynaCERT INC.**Management's Discussion and Analysis****December 31, 2021****SUMMARY OF SELECT ANNUAL INFORMATION**

	2021	2020	2019
Revenue	\$ 757,002	\$ 467,610	\$ 1,064,627
Operating Expenses (excluding share based compensation)	\$ 10,713,461	\$ 10,701,017	\$ 8,790,283
Comprehensive Loss	\$ 16,324,637	\$ 13,725,049	\$ 12,666,123
Basic and Diluted Loss	\$ 0.043	\$ 0.039	\$ 0.043
Total Assets	\$ 16,814,411	\$ 27,496,158	\$ 20,564,704

SUMMARY OF SELECT QUARTERLY INFORMATION

	Quarter Ended			
	31-Dec-21	30-Sep-21	30-Jun-21	31-Mar-21
Total Assets	\$ 16,814,411	\$ 22,410,119	\$ 24,615,617	\$ 27,058,299
Working Capital	\$ 10,156,519	\$ 15,486,119	\$ 18,277,831	\$ 20,424,808
Shareholders' Equity	\$ 13,515,036	\$ 19,608,641	\$ 22,227,849	\$ 24,405,228
Total Revenue	\$ 200,222	\$ 92,484	\$ 414,503	\$ 49,793
Operating Expenses (excluding share based compensation)	\$ 3,298,591	\$ 2,769,939	\$ 2,584,819	\$ 2,060,112
Share Based Compensation	\$ (236,123)	\$ -	\$ 2,716,441	\$ 380,879
Net loss and Comprehensive Loss	\$ 6,399,220	\$ 2,654,208	\$ 4,893,820	\$ 2,377,389
Basic and Diluted Loss per Share	\$ (0.017)	\$ (0.007)	\$ (0.013)	\$ (0.007)

	Quarter Ended			
	31-Dec-20	30-Sep-20	30-Jun-20	31-Mar-20
Total Assets	\$ 27,496,158	\$ 24,520,660	\$ 26,281,281	\$ 20,687,436
Working Capital	\$ 23,162,965	\$ 19,985,385	\$ 21,668,940	\$ 17,511,114
Shareholders' Equity	\$ 26,344,438	\$ 23,533,108	\$ 24,931,986	\$ 18,952,234
Total Revenue	\$ 98,248	\$ 36,973	\$ 19,805	\$ 312,584
Operating Expenses (excluding share based compensation)	\$ 3,192,463	\$ 2,877,040	\$ 2,041,115	\$ 2,590,399
Share Based Compensation	\$ (430,034)	\$ 3,714,766	\$ -	\$ 185,260
Net loss and Comprehensive Loss	\$ 2,653,875	\$ 6,525,740	\$ 2,087,481	\$ 2,457,953
Basic and Diluted Loss per Share	\$ (0.008)	\$ (0.018)	\$ (0.006)	\$ (0.007)

RISKS AND UNCERTAINTIES

Prior to making an investment, decision investors should consider the investment risks set out in the Annual Information Form ("AIF"), located on SEDAR at www.sedar.com, which are in addition to the usual risks associated with an investment in a business at an early stage of development. The directors of the Company consider the risks set out in the AIF to be the most significant to potential investors in the Company but are not all of the risks associated with an investment in securities of the Company. If any of these risks materialize into actual events or circumstances or other possible additional risks and uncertainties of which the Directors are currently unaware, or which they consider not to be material in relation to the Company's business, actually occur, the Company's assets, liabilities, financial condition, results of operations (including future results of operations), business and business prospects, are likely to be materially and adversely affected. In such circumstances, the price of the Company's securities could decline and investors may lose all or part of their investment relating to the Company.

ACCOUNTING POLICIES

New standards not yet adopted

Classification of Liabilities as Current or Non-Current (Amendments to IAS 1)

The IASB has published Classification of Liabilities as Current or Non-Current (Amendments to IAS 1) which clarifies the guidance on whether a liability should be classified as either current or non-current. The amendments:

- clarify that the classification of liabilities as current or non-current should only be based on rights that are in place "at the end of the reporting period"
- clarify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability
- make clear that settlement includes transfers to the counterparty of cash, equity instruments, other assets or services that result in extinguishment of the liability.

This amendment is effective for annual periods beginning on or after January 1, 2022. There is currently a proposal in place to extend effective date for annual periods beginning on or after January 1, 2023. Earlier application is permitted. The extent of the impact of adoption of this amendment has not yet been determined.

DISCLOSURE CONTROLS AND PROCEDURES

The Chief Executive Officer and Chief Financial Officer have designed, or caused to be designed under their supervision, and evaluated the effectiveness of the Company's disclosure controls and procedures and have concluded that, based on their evaluation, they are effective as at December 31, 2021, to provide reasonable assurance that material information relating to the Company and its consolidated subsidiaries is made known to management and disclosed in accordance with applicable securities regulations.

INTERNAL CONTROLS OVER FINANCIAL REPORTING ("ICFR")

The Chief Executive Officer and Chief Financial Officer are responsible for certifying the design of the Company's ICFR as required by Multilateral Instrument 52-109 – "Certification of Disclosure in Issuers' Annual and Interim Filings" and CSA staff notice 52-316 – "Certification of Design of Internal Control over Financial Reporting". The Company's ICFR are intended to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with applicable accounting standards. ICFR should include those policies and procedures that establish the following:

- maintenance of records in reasonable detail that accurately and fairly reflect the transactions and dispositions of the Company's assets;
- reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with applicable accounting standards;
- receipts and expenditures are only being made in accordance with authorizations of management and the Board of Directors; and
- reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

Because of their inherent limitations, ICFR may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The Chief Executive Officer and Chief Financial Officer have evaluated the Company's ICFR and concluded that they are effective as at December 31, 2021. Management follows the Integrated Framework published by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company has designed appropriate ICFR for the nature and size of its business, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements for external purposes in accordance with applicable accounting standards.

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The Company's audit committee has engaged independent legal counsel to assist them in examining the validity, legal standing, enforceability, and potential future recoverability of related party and other transactions as disclosed in note 24 of the audited financial statements. The outcome of the examination is unknown at this time and may result, amongst other matters, in the identification of one or more weaknesses in the Company's internal controls. The Company will disclose the results of the examination once they become available and determine the appropriate corrective measures, if any, at such time.