

#### **ASX Quarterly Report**

#### For the Quarter Ended 31 December 2019

# SALES DURING THE QUARTER

	Sales 31 Dec 2019 A\$000's	Sales 31 Dec 2018 A\$000's	Sales % Change
EdenCrete®	306	604	(49%)
OptiBlend®	213	411	(48%)
Total	519	1,015	(49%)

# HIGHLIGHTS

Progress continues to be made in the marketing of EdenCrete<sup>®</sup> products around the world. Highlights of all the activities during the quarter are detailed below.

# **EdenCrete**®

## USA

- Encouraging growth in the number of US States where EdenCrete sales and/or trials are occurring
- US sales team being restructured and two commission-only sales representatives appointed to supplement existing sales team

## Georgia

- The second GDOT/ Federal (FHWA) funded project using EdenCrete<sup>®</sup> for pavement repairs on 11 miles of highway, continued total value of EdenCrete US\$550,000
- The first GDOT bridge trial of EdenCrete<sup>®</sup> concrete
- GDOT funded highway repair projects occurred requiring US\$107,500 of EdenCrete®

## Colorado

- Ongoing repeat sales to 5 ready mix operators and 7 shotcrete operators in Colorado
- Evaluation of long term field trials for Denver Public Works anticipated by mid-2020
- CDOT trial of EdenCrete<sup>®</sup> on a mountain section of I-70 Interstate Highway deferred until 2021 for time to examine possible addition of two new traffic lanes

#### New York

• First order for EdenCrete<sup>®</sup>Pz received from New York ready mix company for use in low-midrise construction and bulk dispensing system installed in their plant

## South Carolina

• EdenCrete<sup>®</sup> used in South Carolina at a plant operated by major international tyre company in an outdoor concrete storage area for large, industrial tyres.

• Another contract for a similar application from a different customer also supplied since the end of the quarter.

#### Ohio

• First order received from an Ohio-based ready mix company and bulk dispensing system installed in their plant for future sales

Utah, Illinois, Indiana, Wisconsin, Oklahoma, Florida and Pennsylvania

• Trials with new customers took place, have commenced or are being planned in these States, and in some initial sales are anticipated over the next few months

## **Status of DOT Approvals**

- Vermont Agency of Transportation, California Department of Transportation, Oklahoma DOT and the Louisiana DOT approved the use of both EdenCrete<sup>®</sup> and EdenCrete<sup>®</sup>Pz and Alabama, Colorado and Alaska approved the use of EdenCrete<sup>®</sup>Pz.
- Since the end of the quarter, the use of EdenCrete<sup>®</sup>Pz has been approved by North Carolina DOT and the use of EdenCrete<sup>®</sup> has been approved by Alabama DOT
- Currently DOTs from 18 States have approved the use of EdenCrete<sup>®</sup> and 12 have approved the use of EdenCrete<sup>®</sup>Pz.

## AUSTRALIA AND NEW ZEALAND

- Initial regulatory approval to import EdenCrete<sup>®</sup> into Australia for trials received by Parchem
- Commercial trials have commenced in Australia 40 trial requests received to date

#### INDIA

• A number of advanced trials of lower cost, stronger concrete are being undertaken

#### EUROPE

• Advanced trials in two European countries for a range of applications

## KOREA

• Trials with a number of companies are continuing

## US EDENCRETE<sup>®</sup> PATENT ALLOWED

• US patent application no. 15/597,198 allowed - includes 24 claims directed to the production of the EdenCrete® family of products

# **OptiBlend®**

- Sales of OptiBlend<sup>®</sup> Dual Fuel Systems, worth approx. A\$213,000, were invoiced during the quarter, with continued market interest in both the USA and India.
- Appointment of new commission-only sales representatives in USA and India

# **EdenPlast**<sup>™</sup>

• US Patent No. 10,472,240 issued - includes 16 claims directed to the production of the EdenPlast<sup>®</sup> family of products

# Corporate

• New executive appointments in Eden Innovations LLC (Eden US)

# DETAILS

The total sales achieved for the quarter were lower than for the corresponding quarter in 2018, in part due to a reduction in the value of EdenCrete<sup>®</sup> sales for GDOT highway repair projects during this period. Significantly lower sales for the 2019 quarter came from the current Federal funded project, compared to sales from the first such project in the same quarter in 2018.

However, this downward trend in sales is not anticipated to be reflective of the longer term sales trajectory.

The continuing growth in the number EdenCrete<sup>®</sup> customers and the extension in the geographic footprint of EdenCrete<sup>®</sup> sales and trials in both the USA and other countries, supported by the restructuring and expansion of the US sales force, are expected to help drive increased sales in coming quarters.

OptiBlend<sup>®</sup> sales are also anticipated to increase over the coming quarters as new commission-only sales representatives, two of whom have been appointed, help drive an increase in both OptiBlend<sup>®</sup> sales in India and USA.

# EDENCRETE®

# USA GROWTH OF US FOOTPRINT

Regular sales to repeat customers continue in a number of US States, for a range of projects including building construction and maintenance, driveways, industrial flooring, shotcrete applications, and highway repairs. During the quarter, sales of EdenCrete<sup>®</sup> products have occurred in Georgia, Colorado, New York, South Carolina and Ohio.

During this same period, trials with new and potentially significant customers that operate in a range of market sectors, took place, are presently underway, or are being planned in Georgia, Colorado, New York, South Carolina, Idaho, Ohio, Utah, Illinois, Indiana, Wisconsin, Oklahoma, Florida and Pennsylvania.

Experience over the past three years has shown that a significant proportion of the growth in EdenCrete<sup>®</sup> sales over this time has occurred following successful trials or projects, with news of the successes often being passed on to potential new customers by various means, including by contractors who undertook the successful project.

# US EDENCRETE<sup>®</sup> SALES FORCE

To service the increasing US interest and help accelerate the growth in sales, the structure of the US sales team has been reviewed and two or three new sales people are planned.

Additionally, Eden has also appointed, or is discussing the possible appointment of a number of new sales representatives that will sell EdenCrete<sup>®</sup> products on a commission-only basis. To date two sales representatives have been appointed who will provide sales coverage in Texas, Wisconsin, Illinois and Indiana.

# **US SALES AND MARKETING PROGRESS**

# Georgia

### Second GDOT/FHWA funded highway repair project

#### 17.35 Miles of repairs on I-285 (Fulton, Cobb) - US\$550,000 worth of EdenCrete®

The second highway repair project in Georgia, to be jointly funded by the Federal Highway Administration (FHWA) (80%) and the Georgia Department of Transportation (GDOT) (20%) that includes EdenCrete<sup>®</sup> in the concrete mix, commenced late in September 2019, and is scheduled to finish late in February 2020. Work is being carried out on weekends, to minimise disruption to traffic on the busy highway.

The US\$17.4 million project involves the replacement of numerous sections of concrete pavement along 17.35 miles of Interstate Highway I-285 and State Road SR 407 in Fulton and Cobb counties. The initial specifications for the project were that it would involve the replacement of only approximately 5,146 cubic yards of concrete, requiring approximately 10,292 gallons of EdenCrete<sup>®</sup> worth US\$257,300.

As with the first FHWA jointly funded project, where the initial scope of the project was expanded by almost 40%, Eden has so far delivered EdenCrete<sup>®</sup> worth US\$375,000 for this project and has been advised that the revised scope will increase the required amount of EdenCrete<sup>®</sup> to approximately 22,000 gallons worth US\$550,000.

#### **GDOT funded repair projects**

During the quarter, four State funded repair projects requiring approximately US\$107,500 worth of EdenCrete<sup>®</sup> were advertised for tender but these projects will not occur, and the sales take place, until sometime in 2020.

#### GDOT- First EdenCrete® bridge trial in Georgia

EdenCrete<sup>®</sup> is being trialled in a GDOT bridge trial on a bridge across Little River in northern Georgia where is testing EdenCrete<sup>®</sup> in the new concrete decking. The project commenced in November 2019 (see Figure 1) when the first test span was poured, and the second (and last) test span was successfully poured in December 2019.



Figure 1. Bridge over Little River showing freshly lain concrete bridge decking

The fresh properties of the EdenCrete<sup>®</sup> concrete satisfied all the required specifications. Further, the EdenCrete<sup>®</sup> concrete was tested for compressive strength and flexural strength over a 28 day period, delivering the following positive results:

0	After 24 Hours - Compressive strength -	2767 PSI	(12% over design)
0	After 72 Hours - Compressive strength -	4790 PSI	(37% over design)
0	After 28 Days - Compressive strength -	6787 PSI	(70% over design)
0	After 28 Days - Flexural strength -	915 PSI	(41% over design)

The performance of the concrete decking will be monitored for the period of the trial, which could be up to 2 years. However, this monitoring period may be reduced by GDOT if it is satisfied with the performance levels that are achieved in other existing bridge trials of EdenCrete<sup>®</sup> that are being conducted by other DOTs, some of which have been underway for more than a year.

#### MARTA

Eden has been in recent discussions with the Metropolitan Atlanta Rapid Transit Authority (MARTA), which has a number of light rail station rehabilitation projects planned over the next few years, and Eden is hopeful that the first suitable project that uses EdenCrete<sup>®</sup> will be nominated during 2020.

MARTA published a joint white paper with Eden in 2018 detailing the strong performance of EdenCrete<sup>®</sup> achieved in a two year field trial at the Brady Mobility Facility in Atlanta, Georgia. MARTA remains a high priority target for use of EdenCrete<sup>®</sup> products in suitable future infrastructure projects.

The anticipated inclusion in one or more MARTA projects will provide a very strong recommendation for EdenCrete<sup>®</sup> that is considered likely to assist in the future marketing into similar projects in other US cities as well as in other countries.

## Colorado

#### Continued growth of EdenCrete® sales in Colorado

During the quarter, usage and sales of EdenCrete<sup>®</sup> products in Colorado continued to rise. Currently there are 5 ready mix operators and 7 shotcrete operators in Colorado using EdenCrete<sup>®</sup> on a regular basis.

#### CDOT trial of EdenCrete<sup>®</sup> on I-70 Interstate Highway deferred until 2021

The Colorado Department of Transportation (CDOT) is has delayed until 2021 conducting an important trial that will include EdenCrete<sup>®</sup>, on the Interstate Highway I-70 in the Rocky Mountains on the western side of Vail Pass.

The Vail Pass, rising to an altitude of 3,251m (10,666ft) above sea level (see Figure 2), experiences extreme winter conditions, resulting in the frequent application of magnesium chloride to assist in de-icing, but which causes scaling of the concrete.

Construction had been scheduled for the third quarter of 2020. However CDOT has decided to examine the feasibility of adding an additional lane on each side of the highway at this location to help relieve traffic congestion, and this review will delay the project for about a year.



Figure 2. Interstate Highway I-70 – Vail Pass, Colorado

The trial will evaluate the performance of EdenCrete<sup>®</sup> against alternative products, and will largely be focusing on increasing abrasion resistance to reduce damage caused by metal studded snow tyres and rutting due to large semi-trailer tyre chains, and reducing the impact of freeze-thaw events that cause the pavement to crack and break up.

Currently, CDOT battles with the constant and expensive asphalt replacement cycle approximately every 4 years. They are looking for a solution that will increase life cycle and lower maintenance funding demands, to help free up budget resources for other projects.

The current details of the planned trial at present remain unchanged:

- CDOT will place 3 test contiguous sections in the right hand lane (i.e. the slow lane where trucks operate) on Interstate Highway 70, each 1,000 ft. (304.8 meters) long. One section will be a concrete reference mix, a second will be a 7% silica fume mix, and the third will be an EdenCrete<sup>®</sup> mix, estimated to require approximately 500 gallons.
- Each mix must achieve 3,000 psi compressive strength in 2 days, and include 20% flyash for ASR mitigation and be accelerated.
- CDOT intends paying for the EdenCrete<sup>®</sup>.

This comparative trial represents a major opportunity for EdenCrete<sup>®</sup> to demonstrate the performance and economic benefits that it can deliver in an extremely harsh environment, when compared with other concrete mixes. If successful, the trial is expected to help significantly expand the EdenCrete<sup>®</sup> footprint into other similar US highway and infrastructure markets and also into other locations around the world that experience extreme winter conditions.

#### New York

#### EdenCrete®Pz – First Sale into New York Market

During the quarter Eden received its first order for EdenCrete<sup>®</sup>Pz in New York from United Transit Mix Inc. ("United Transit") which was delivered to a bulk tank at United Transit's plant. Eden had installed the bulk tank and dispensing system to enable the dosing of EdenCrete<sup>®</sup>Pz to be remotely managed and incorporated into the concrete during batching in the same automated manner that the other components are added.

United Transit services the greater New York City market and has advised that it is looking for a suitable initial project in which EdenCrete<sup>®</sup>Pz can be used, and it is hoped that this will occur in the reasonably near future. The first such project will be a major milestone for EdenCrete<sup>®</sup> products to be used in a low-midrise construction project.

# **South Carolina**

A key focus area, initially mainly targeting Georgia, Colorado and surrounding States, has been industrial business applications including manufacturing and warehouse flooring, and surrounding hard stand areas.

During the September quarter, the first order was received for EdenCrete<sup>®</sup> for use in a concrete storage area in a plant in South Carolina for a major international tyre company.

As a result of subsequent recommendations by the contractor involved in this project, trials of EdenCrete<sup>®</sup> were conducted with another large company in South Carolina and a positive outcome from these trials has resulted in Eden receiving an order and EdenCrete<sup>®</sup> being used in a similar project in South Carolina for this second company.

Further orders from both of these companies are anticipated over the coming months.

Interest, for similar applications, in the broad range of performance benefits and project lifecycle cost savings delivered by EdenCrete<sup>®</sup> continues to grow amongst a range of general contractors, architects and engineers, and ready mix suppliers.

## Ohio

During the quarter the first order received from Ohio based ready mix company and bulk tank and dispensing system was installed in their plant. This represents the first sale into Ohio.

# Utah, Illinois, Indiana, Wisconsin, Oklahoma, Florida and Pennsylvania

During the quarter, trials with new and potentially significant customers that operate in a range of market sectors took place, are presently underway or being planned in Utah, Illinois, Indiana, Wisconsin, Oklahoma, Florida and Pennsylvania.

This significant extension of the EdenCrete<sup>®</sup> footprint in the US is an important development and is considered likely to result in significantly increased US sales emerging over the coming year. The recent appointment of the first commission-only sales representatives, who operate in States where EdenCrete<sup>®</sup> products have not yet been sold, is anticipated to accelerate this growth in the US EdenCrete<sup>®</sup> footprint.

Further, experience over the past three years has shown that a considerable proportion of the growth in EdenCrete<sup>®</sup> sales over this time has occurred following successful trials or projects, with news of the successes being passed on to potential new customers by various means, including by contractors who undertook the successful project.

# **Approval Status of EdenCrete® Products by State DOTs**

During the quarter, the Vermont Agency of Transportation, California DOT, Oklahoma DOT and the Louisiana DOT approved the use of both EdenCrete<sup>®</sup> and EdenCrete<sup>®</sup>Pz and Alabama, Colorado, and Alaska approved the use of EdenCrete<sup>®</sup>Pz.

Since the end of the quarter, North Carolina DOT has approved the use of EdenCrete<sup>®</sup>Pz and Alabama DOT has approved the use of EdenCrete<sup>®</sup>, and as a result EdenCrete<sup>®</sup> is now approved for use by DOTs in 18 States, and EdenCrete<sup>®</sup>Pz is approved for now use in 12 States, and. The 18 State DOTs that have so far approved the use of EdenCrete<sup>®</sup> products are:

Alabama, Alaska, Arkansas, California, Colorado, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Vermont, Virginia and West Virginia (see Figure 3).



Figure 3. Map of USA showing current position of DOTs Approval

These 18 States represent approximately:

- 45% of the total US population;
- 65,500 bridges that are structurally deficient or functionally obsolete;
- 45% of the total number of such bridges in the USA\*; and
- 50% of the total US land area.

\* DOT Fact Sheets Highlight Grim State of US Roads and Bridges – 9 July 2015

# AUSTRALIA AND NEW ZEALAND

#### Parchem Distributorship

In November 2019, Parchem Construction Supplies Pty Ltd, the Australian and New Zealand distributor of the EdenCrete<sup>®</sup> range of products, was successful in obtaining approval in Australia for up to 60,000 litres of EdenCrete<sup>®</sup> to be imported and trialled. The delay in obtaining this approval was due to no prior applications having been made to import into Australia products containing carbon nanotubes.

Commercial trials of EdenCrete<sup>®</sup>, which is being paid for by the customers, have since commenced and Parchem has already received approximately 40 requests to conduct commercial trials. It is hoped that the final approval that will enable unrestricted commercial sales in Australia to commence, will be received later in 2020.

The commercial interest received to date is very encouraging and is hoped will rapidly translate into significant commercial sales in Australia once this final approval is obtained. This approval is expected later in 2020.

### INDIA

During the quarter, further progress was made with a number of large companies in India conducting trials that, in several cases, are now at an advanced stage.

Great interest is being shown particularly in EdenCrete<sup>®</sup>Pz enriched concrete mixes that often include a significantly higher percentage of low cost Indian fly ash and a reduced quantity of the more expensive Portland cement, frequently resulting in lower cost, higher performing concrete. In some cases these trials have advanced from laboratory trials to truck trials.

In India, flyash is readily available at a price that is typically significantly lower than the price of Portland cement, and as EdenCrete<sup>®</sup>Pz in particular may assist increase the ratio of flyash to Portland cement that can be used in any concrete mix without reducing, and in some cases increasing the performance of the concrete, it offers the potential to meaningfully reduce the cost of the concrete.

The Indian concrete market is amongst the largest concrete markets in the world, and the readily available, low cost flyash makes this market one of Eden's most exciting prospects.

#### Background to Indian Concrete market

#### Indian Fly Ash Supply

In April 2018, the Indian Ministry of Coal estimated that India had approximately 319 Billion tonnes of Geological Resources of coal, of which 280 Billion tonnes are classified as non-coking coal, including approximately 129 Billion tonnes of non-coking coal that are classified as "Proved/ Measured". 1. Indian non-coking coal is mainly used in coal fired thermal power stations to generate electricity, fertiliser plants, cement furnaces and brick kilns.

Much of this non-coking coal contains high levels of silica, that when burnt produces a significant percentage (by weight) of fly ash. To minimise air pollution, the fly ash is largely captured in the smoke stacks of the furnaces, generating very large quantities of fly ash that is sold at very low prices or in some cases given away free of charge.

In consequence, it is hoped that the addition of EdenCrete<sup>®</sup> products to concrete mixes may enable the percentage of the low cost fly ash to be increased, thereby potentially strengthening the concrete as well as perhaps reducing its cost whilst also reducing its Greenhouse Gas footprint due to the fly ash itself being a waste by-product.

#### Indian Concrete Market

In India, a rapidly developing nation with a population of nearly 1.3 billion people, the concrete market for all industrial, commercial and infrastructure applications, whilst already being large by global standards, is growing rapidly.

India is the second largest cement manufacturer in the world. To put this in context, in 2017, India's annual cement consumption reached 270 Million tonnes. As commercial concrete mixes often contains up to or more than 20-30% (by weight) of cement, this is estimated to have resulted in the annual consumption of between approximately 800 Million tonnes – 1.3 Billion tonnes of concrete, or approximately 347 Million cubic metres - 565 Million cubic metres of concrete. Coupled with the election commitment in May 2019 to allocate US\$1.2 trillion towards infrastructure by re-elected

Prime Minister Modi, India is a very high priority target for EdenCrete<sup>®</sup> for infrastructure and construction projects.

Relevantly, during the past four years, the Indian Federal Minister for Transport and Roads (and who was re-appointed to the same portfolio after the recent election), is reported to have pushed the increase in the rate at which new Federal highways and roads were built (including a significant amount built using concrete), from two kilometres per day to thirty kilometres per day, and he has recently indicated he would like to again double that rate to sixty kilometres per day during the next four years.

Many of the concrete mixes that have been trialled in India with EdenCrete<sup>®</sup> to date delivered reasonable improvements in performance, opening the way for EdenCrete<sup>®</sup> products to potentially deliver cheaper, better concrete that has significantly lower Greenhouse Gas footprint. If these early positive outcomes can be delivered on a broader scale, India is considered likely to become a major market for EdenCrete<sup>®</sup> products.

- 1. https://coal.nic.in/content/coal-reserves
- 2. https://www.statista.com/statistics/269322/cement-consumption-in-india-since-2004/

# EUROPE and MIDDLE EAST

Advanced trials are currently underway in two European countries with a major construction company and a ready mix concrete company, following extensive laboratory trials in each case over the past six months. Requests for trials have also been received from other European and Middle Eastern countries.

A successful outcome from either or both of these current European trials would provide a strong launching pad into both the large and highly developed European concrete market, and potentially also into the Middle Eastern market.

# **SOUTH KOREA**

Trials in Korea are continuing with a number of major companies. These follow the highly successful durability trials at Hanyang University at the end of 2018. Eden is hopeful that they will translate into significant commercial sales later in 2020.

# **OPTIBLEND®**

During the quarter Eden recorded the following OptiBlend<sup>®</sup> sales:

	SALES (A\$000s)	
USA	141,000	
INDIA	72,000	
TOTAL	213,000	

#### **Optiblend®** Sales for the Quarter

Whilst these sales were lower than in the previous quarter, Eden remains optimistic that OptiBlend<sup>®</sup> sales will increase over the coming quarters in both USA and India. The proposed appointment of further suitable, commission- only sales representatives could significantly assist in achieving this outcome.

# EDENPLAST<sup>™</sup> RESEARCH PROJECT

The three-year research project with the University of Queensland ("UQ") for the development on a new method for producing carbon nanotube ("CNT") enriched thermoplastic composites, which is partly funded by an Australian Research Council ("ARC") Linkage Grant, continued, focusing on commercialisation, and considering possible new areas for investigation.

Eden has also been reviewing possible commercial markets and potential partners but no decisions have yet been reached.

# INTELLECTUAL PROPERTY

# US Patents Allowed for EdenCrete® and EdenPlast®

During the quarter, the US Patent and Trademark Office issued one application and allowed another application that were each lodged in 2017. Details of these two US patents are as follows:

US patent application no. 15/597,198 has been allowed and includes 24 claims directed to the production of the EdenCrete<sup>®</sup> family of products; and

US Patent No. 10,472,240 has issued and includes 16 claims directed to the production of the EdenPlast<sup>®</sup> family of products.

In addition, corresponding patent applications have been lodged in the US that include claims directed to the composition of the EdenCrete<sup>®</sup> and EdenPlast<sup>®</sup> family of products. Corresponding patent applications have also been lodged in five other countries pursuant to the Patent Convention Treaty.

These two US patents are both broad in their scope, covering in each case the use of a wide variety of carbon nanoparticles in the manufacture of concrete and plastic products including carbon nanotube particles, carbon nanofiber particles, graphene particles, graphite particles, carbon black, polycrystalline carbon particles, nanodiamonds and fullerene particles.

The two US patents are intended to provide significant protection in the USA for the considerable intellectual property that Eden has developed over the past 10 years in relation to the EdenCrete<sup>®</sup> and EdenPlast<sup>®</sup> family of products.

Eden now holds ten US patents protecting its technologies in different areas, along with corresponding patents in a number of other countries. Eden also holds three other current US patent applications that are still being considered.

# HYDROGEN

No further activity occurred during the quarter on Eden's hydrogen technologies.

#### Hydrogen Background

Whilst focusing heavily on hydrogen related activities between 2004 and 2012, Eden built, and still retains, a strong hydrogen technology base (comprising significant know how, techniques, designs and eight relevant patents), including Eden's patented pyrolysis process for production of hydrogen and carbon nanotubes/carbon nanofibres from natural gas (without producing carbon dioxide as a by-product), a patented blender for blending hydrogen and natural gas to create a highly efficient, low emission blend called Hythane<sup>®</sup> which Eden promoted for a number of years, particularly in India, and a patented hydrogen fuelled, internal combustion engine.

During this period, Eden built a hydrogen electrolyser and an operating Hythane<sup>®</sup> station for Indian Oil near the Delhi airport (and which was still operating until 2018), and developed Hythane<sup>®</sup> bus engines with Ashok Leyland, the largest Indian bus manufacturer.

Eden was also at that time working on joint ventures with various Indian natural gas suppliers to establish a number of Hythane<sup>®</sup> bus trials in various parts of India, but interest in hydrogen as a fuel started to wane after 2008, when US policy moved away from hydrogen as a vehicle fuel to electric vehicles. As a result none of these early developments in India progressed beyond the development and planning stages.

Over the past couple of years however, around the world there has been a growing increase in the level of interest in hydrogen as a fuel, in large part being driven by concern about climate change, which in turn has resulted in increased interest in Eden's hydrogen technologies. Additionally, in India, extreme air pollution in Delhi and other cities is causing great concern, which has resulted in the Indian Supreme Court having mandated that the 10,000 strong, natural gas fuelled bus fleet in Delhi, be converted to run on a hydrogen based fuel, that in the short term is focusing on converting these buses to operate on Hythane<sup>®</sup>. This has again resulted in enquiries being received in relation to Eden's various hydrogen capabilities.

Similarly, in Australia, the Federal Government in 2018 allocated funds for research into the production of "clean hydrogen", opening a further area of possible interest for Eden for its now commercialised, pyrolysis process that produces, with a very low Greenhouse Gas footprint, both relatively low cost hydrogen and high value carbon nanotubes or carbon nanofibres.

# CORPORATE

#### **New Executive Appointments**

In an effort to increase our focus and accelerate this growth in the US, our major market, during the quarter Roger Marmaro, who has been with Eden US since 2005, and has been its CEO since 2008, assumed the role of President of US Sales, focusing 100% of his time on driving sales, managing the US sales team and adding new strategic sales channels.

Roger has an intimate knowledge of Eden's products and for six months had been acting as Sales Manager, in addition to being the CEO of Eden US. The change in role will enable his full efforts to be focused exclusively on sales.

Associated with this move, Dag Grantham took over the role of CEO of Eden US. Dag joined Eden in Sept 2016 as Senior Vice President Business Development. Dag has an impressive background that includes 20 years of distinguished leadership in the US Air Force, General Manager of National Specialty Aggregates, a wholly owned subsidiary of Pebble Technology Inc., and Director of Flight Standards for NetJets Aviation.

The Board believes that Dag is ideally suited to assume this new and very important role. After a short transitional period Dag will relocate to Littleton, Colorado.

# Secured loan of US \$1.85 million completed

Since the end of the quarter, to fund ongoing working capital, Eden secured US\$1.85 million in debt financing by way of a 2-year, interest only loan (the "Loan") from a publicly listed US real estate financing institution, which is secured against Eden's two freehold properties in Colorado, U.S. (owned by Eden's 100% owned U.S. subsidiary Eden Innovations LLC ("Eden US").

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Gregory H Solomon Executive Chairman

For information, please contact Greg Solomon (+61 8 9282 5889) or visit www.edeninnovations.com