

# Eden Innovations Ltd

## Investor Presentation

13 June 2023



# Disclaimer

## FORWARD LOOKING STATEMENTS

This presentation includes certain forward-looking statements of Eden's management. Forward-looking statements are statements that contemplate the happening of possible future events and are not based on historical fact. Forward-looking statements may be identified by the use of forward-looking terminology, such as "may", "shall", "could", "expect", "estimate", "anticipate", "predict", "probable", "possible", "should", "continue", "budgeted", "forecast", "targeted" or similar terms, variations of those terms or the negative of those terms. Forward-looking statements should not be read as a guarantee of future performance or results and may not be accurate indications of when or whether such performance or results will be achieved. Forward-looking statements are based on information known to Eden when those statements are made or management's good faith belief as of that time with respect to future events and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. The forward-looking statements specified in this presentation have been compiled by Eden's management on the basis of assumptions (which may or may not turn out to be accurate) made by management and considered by management to be reasonable. Eden's future operating results, however, are impossible to predict because of risks and uncertainties, and no representation, guarantee, or warranty is to be inferred from those forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements.

Forward-looking statements include, but are not limited to, the following:

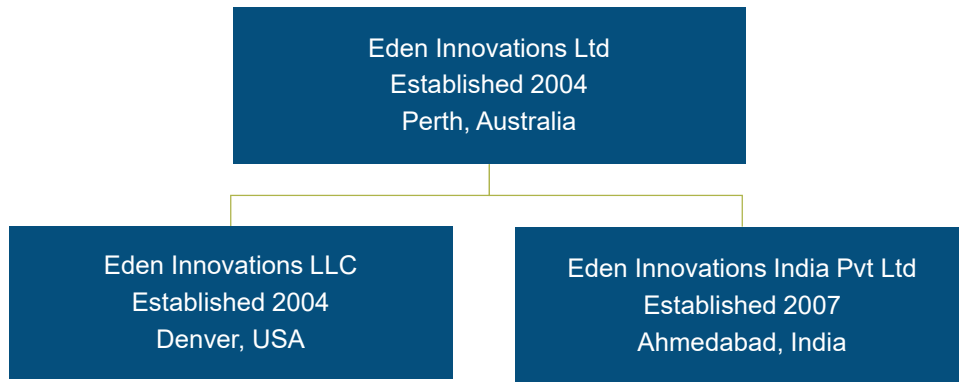
Statements relating to Eden's budgeted, forecast and targeted revenue, future production capacity and sales levels, and business and financial performance; Statements relating to future research and development results and regulatory approvals of Eden's products; Statements relating to Eden's competitive position; and Other statements relating to future developments that you may take into consideration.

Actual results of Eden's operations may differ materially from information contained in the forward-looking statements as a result of risk factors some of which include, among other things: global economic stability, continued compliance with government regulations regarding production and use of carbon nanotubes in the U.S. or any other jurisdiction in which Eden conducts its operations; changing legislation or regulatory environments in the U.S. and any other jurisdiction in which Eden conducts its operations; credit risks and product sales affecting Eden's revenue and profitability; exposure to product liability claims; changes and new competitive products in the specialty concrete admixture industry; the level of market acceptance and demand for EdenCrete™; Eden's ability to effectively market all the product it can produce; Eden's ability to manage its growth, including implementing effective controls and procedures and attracting and retaining key management and personnel; changing interpretations of generally accepted accounting principles; the availability of capital resources, including in the form of capital markets financing opportunities; and general economic conditions.

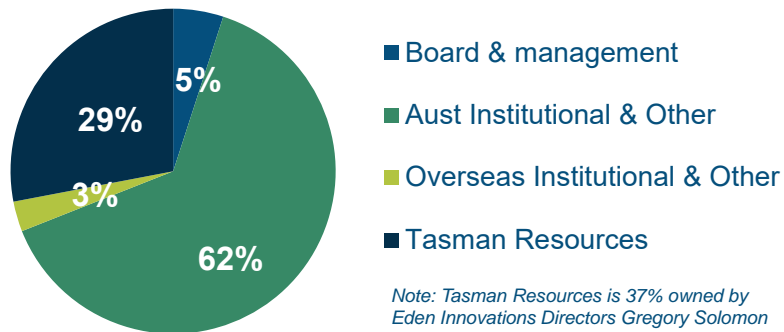
This presentation has been prepared as a summary only and does not contain all information relating to Eden's assets and liabilities, financial position and performance, profits and losses and prospects: it should be read in conjunction with all of the publicly available information in relation to Eden which has been released to the Australian Securities Exchange (ASX Code: EDE).

# Corporate Snapshot

## CORPORATE STRUCTURE



## SHAREHOLDERS



- Board & management
- Aust Institutional & Other
- Overseas Institutional & Other
- Tasman Resources

*Note: Tasman Resources is 37% owned by Eden Innovations Directors Gregory Solomon and Douglas Solomon*

## CAPITAL STRUCTURE

### Eden Innovations Ltd

ASX Symbol

EDE

Issued shares

2,996,944,406

Stock Price <sup>(1)</sup>

A\$0.004

Market Cap <sup>(1)</sup>

~ A\$11.98 million

Cash <sup>(2)</sup>

~ A\$2.57 million

Debt <sup>(3)</sup>

~ A\$9.5 million

1) As at 13 June 2023

2) As at 31 March 2023

3) Debt- US\$6.45 million (~ A\$9.45 million) of total debt of ~A\$9.5m is secured against real estate owned by Eden that was refinanced in August 2022, and that has an appraised value in May 2022 of over US\$12 million). The balance of the debt (A\$50,000) is current trade creditors).

## Major Recent Developments in Eden's Global Markets

### Carbon

**USA - Growing Interest in Eden's pyrolysis process to produce carbon (CNT) and hydrogen from natural gas**

- A series of preliminary meetings with one very large US company have been held, and are ongoing
- Interest from another US listed company received

### EdenCrete® Products

**USA - increasing interest in the whole range of EdenCrete® Products, including for low CO2 concrete**

- Discussions planned with GDOT for use in possible bridge projects

**Europe - increasing interest in EdenCrete® Pz Products for low CO2 concrete for possible use in a number of countries**

**India – EdenCrete® Pz Product trials underway with very large Indian ready mix company for low CO2 concrete**

**Indonesia- EdenCrete® Pz Product trials completed with very large Indian ready mix company for low CO2 concrete and discussions about first order**

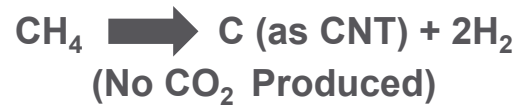
# Eden's Core Technologies

- **Producing Carbon Nanotubes (75% by mass) + Hydrogen (25% by mass) from Natural Gas**
  - $\text{CH}_4 + \text{heat} \rightarrow \text{C} + 2\text{H}_2$  (without Producing any  $\text{CO}_2$ )
  - Carbon Nanotubes (CNT) – Ultra-strong, highly conductive (thermal and electrical) carbon nano-particles
  - Hydrogen – if renewable or nuclear power used for production, turquoise hydrogen and CNT produced, without producing  $\text{CO}_2$  .
- **Producing EdenCrete® Products - ASTM and NTPEP Qualified, CNT-enriched, high performance liquid concrete additives.**
  - **EdenCrete®** - delivers higher performance, longer lasting, more durable and sustainable concrete
  - **EdenCrete®Pz & EdenCrete®Pz7** - deliver high performance, low cost, low  $\text{CO}_2$ , high % of fly ash and/or high % of blast furnace slag concrete with a low % Portland cement.
- **OptiBlend®** - Dual fuel system to run diesel engines on mixture of 70-80 % Natural Gas ( $\pm \text{H}_2$ )
- **EdenPlast®** - CNT enriched, high performance plastics and polymers



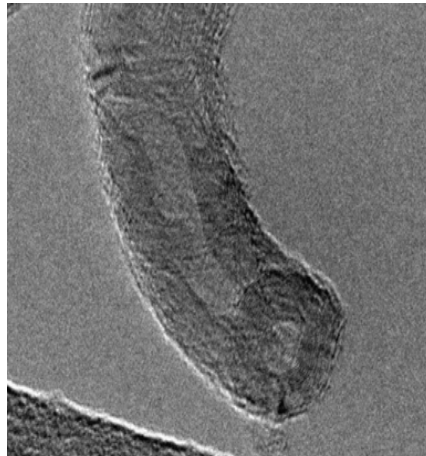
## Carbon Nanotubes

Fully Commercialised Patented Pyrolysis Process produces Carbon Nanotubes and Hydrogen



Harnessing the benefits of carbon nanotube technology for commercial application in:

- concrete and
- plastics.



TEM image of Eden's MWCNT

### Key properties of CNT:

- Tensile Strength: 100-300x steel
- Weight: ~17% of steel
- Highly conductive: thermally and electrically

## Carbon Nanotubes and H<sub>2</sub>



CNT - act as nucleation points for dense cement hydration - builds on all surfaces of CNT in concrete.



CNT - Create quintillions (10<sup>18</sup>) of flexible, super-strong carbon nano-structures throughout the concrete.



CNT - Produce stronger, tougher and more durable concrete.



CNT - Produce stronger, tougher, more durable plastics.



H<sub>2</sub> produced is equal to 33% (by weight) of CNT produced. As more CNT required, supply of H<sub>2</sub> grows.



## CNT-enriched Liquid Concrete Admixtures Deliver more durable, higher performance concrete with significant CO<sub>2</sub> reductions

EdenCrete® is a cost effective, carbon nanotube enriched liquid admixture that is mixed into wet Portland concrete:

- Increases durability, flexural, tensile & compressive strength, and abrasion resistance; and
- Reduces shrinkage, permeability and damage from salt and chemicals and increases freeze / thaw resistance.

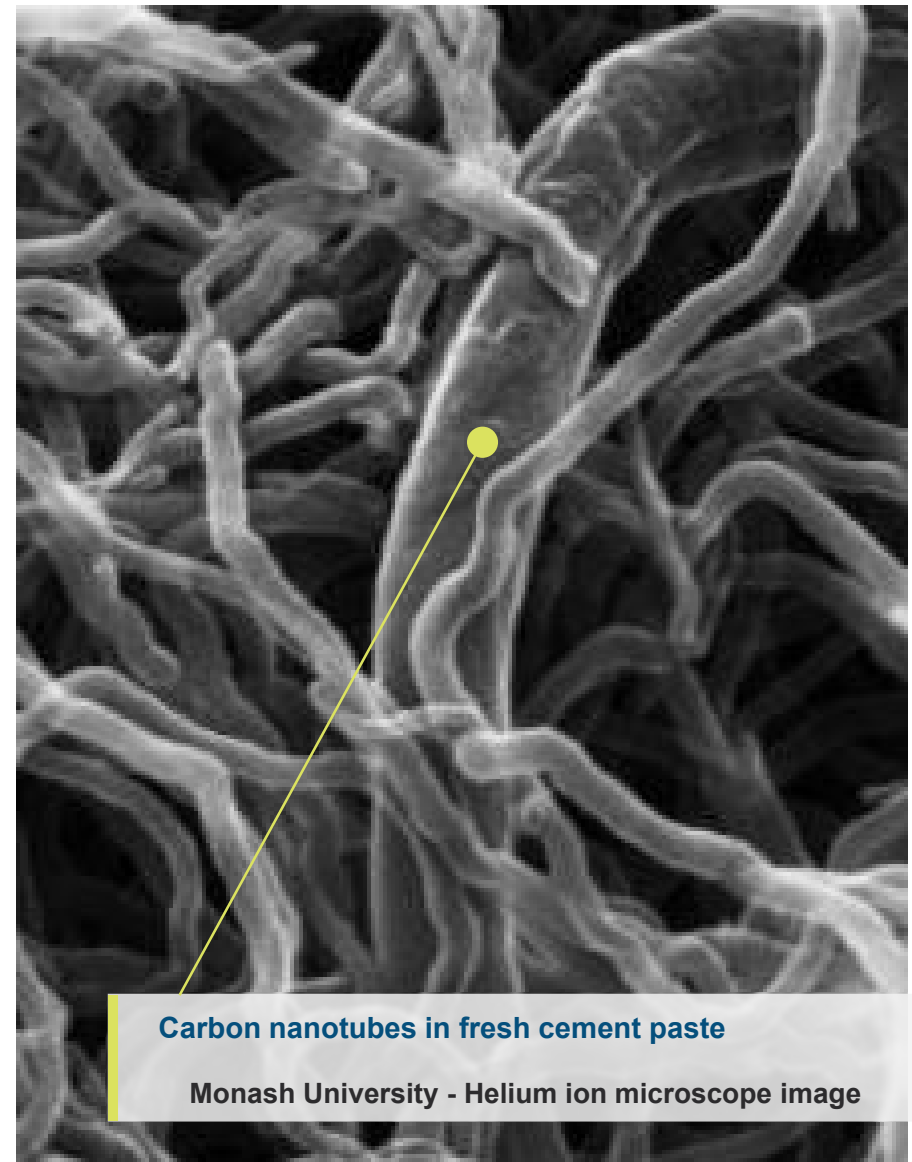
EdenCrete® Pz / Pz7 are cost effective, carbon nanotube enriched liquid admixture that is mixed into any wet concrete (including high pozzolan mixes (fly ash and slag) that :

- Often increase compressive strength and abrasion resistance, reduce permeability, and can also improve flexural strength and other characteristics.

### All key qualities for infrastructure

EdenCrete®  
Suitable for Portland  
cement

EdenCrete® Pz  
Suitable for both  
Pozzolanic and Portland  
cements



# OptiBlend®

## 100% owned, world leading dual fuel system

- **OptiBlend® - Eden's designed, built and custom fitted hardware technology:**
  - Allows conventional diesel engines to run on natural gas as its primary fuel without modifying the engine or the diesel fuel system.
- **Marketed in US and India for 12+ years, over 350 systems sold :**
  - USA and India, Middle East and East Asia.
  - Recent enquiries from Nigeria and Iraq
- **Significant market growth emerging, particularly in India (due to extreme air pollution) :**
  - Delhi government ban on use of gensets during winter using solely diesel fuel.
  - US market slower.
- **Eden India profitable and self funding for past 3 years from OptiBlend® sales**
  - In 2H 2022 sales exceeded A\$800,000 per quarter with 27 installations in September quarter 2022 (A\$817,000) and 30 installations in December quarter 2022.
  - **Total sales for 2022- A\$2.223 million**
- **OptiBlend® :**
  - Lower fuel costs, lower emissions/CO<sub>2</sub> footprint, increased runtime;
  - Highly efficient, cost effective system -reduced fuel cost and emissions;
  - Used by Cummins on oil/gas drilling power module (3 Tier II gensets);
  - Installed on most major global brands of diesel engines.



OptiBlend® Fuel Control Valve (left) and Air-Gas Mixer (right)





# EdenPlast<sup>®</sup>

## Eden Commercialising EdenPlast<sup>®</sup>

### CNT enriched plastics

- Patented, cost effective processes.
- Uses CNT produced by Eden.

### Highly encouraging results

- < 50% increase in stiffness.
- Increase in electrical conductivity.

### Current target markets

- Automotive, aerospace, packaging.
- Batteries - cathodes.
- Non-corroding reinforcing material.
- Global plastics market ~US\$600 billion p.a.

### Commercialisation

- Japanese trial with CNT enriched masterbatch (containing 37% by mass of CNT).
- Target to try and find first commercial customer



## Eden's Technologies – Market Outlook

- **2023-** Eden holds a number of patents/patent applications that are all registered/ lodged in a number of countries, related to hydrogen and carbon nanotubes (CNT) applications:
  - Hythane System
  - Hythane Blending
  - Hydrogen Internal Combustion Engine
  - Pyrolysis Process to produce Hydrogen and CNT
  - EdenCrete® (1 patent/1 application)
  - EdenCrete® for EMP shielding
  - EdenPlast® (1 patents/1 application)
- **2018 - 2023-** Growing interest in Eden's EdenCrete range, OptiBlend, CNT and Hydrogen.
- **Eden India** cash flow positive for over 3 years from OptiBlend sales alone, generating A\$2.223 million in 2022.
- **2023** – Current market focus is USA and India - in all products.
  - Emerging market interest from Europe for low CO<sub>2</sub> concrete.

# EdenCrete®

## Strong Pipeline of Major Projects and Sales

### USA

- DOTs - EdenCrete® - currently being used in Georgia and Colorado – roads, shotcrete
  - trials underway in Colorado (Vail Pass) Ohio and Iowa
- Airports – United Airlines using EdenCrete® for 3 years (Denver) in 5 projects –large recent project.
- Commercial, Industrial, High Rise, Shotcrete - wide range of applications, many repeat projects in USA
  - Numerous major projects in advanced planning reviewing possible use of EdenCrete®.
  - 2 large proposed industrial plants and precast company reviewing possible use of EdenCrete®.
- Ports / Marine - Savannah and Brisbane; EdenCrete® Pz trial- reduced permeability, extended life by over 600%.

### INDIA

- 1.4 billion people, huge infrastructure and construction programme, broad interest from major companies.
- Huge EdenCrete® Pz potential –150million tonnes of fly ash produced each year, rising to 500m in next 5 years.
- Godrej Construction – operates in 20 cities- first EdenCrete® customer in India, and first Indian partner.
- Anticipated Infrastructure Projects- Mumbai – First projects expected - 2 Expressways- 50kms/10 lanes, ~340,000 m<sup>3</sup> concrete that would require approx. US\$700,000 of EdenCrete® Pz.
- Very strong 2022 OptiBlend sales – A \$2.223million - interest from Africa and Middle East

## EdenCrete®

### EdenCrete® - Major Marketing and Sales Achievements to Date

**Low CO<sub>2</sub> Concrete- EdenCrete® Pz** – enables delivery of low CO<sub>2</sub>, low cost, high fly ash concrete – huge global potential

- Highly successful in India in commercial use with Godrej Construction, and very promising trials in USA and Indonesia

**Roads and Bridges - US - Approved in 21 States**, in use in 4 States (2017- specified by GDOT in repair specifications)

- **I-70 project in Denver-** continually used in shotcrete for stabilisation/ retaining walls since 2018

**Ports – US and Australia-** Successful trials in Savannah and Brisbane, first contracts with Port of Savannah, other

**Waste Water Treatment – US** - first project in South Carolina.

**Electro-Magnetic Pulse (EMP) Protection** – European trials confirm effective protection. Interest in US for data centres.

**Ready Mix – US** – over 30 ready mix companies in many States and growing. **India** – Godrej using it in several cities

**Shotcrete / Swimming Pools– US** -used by growing number of ready mix companies across many States.

**Warehouses/ Industrial Flooring – US-** many projects for major companies (including 5 times by Michelin).

**Contractors/ Engineers –US-** regularly used/ recommended by growing number of contractors/engineers.

**US Sporting Stadiums and Arenas** - used repeatedly on many different repairs projects at major Denver sporting facility.

**International –Sales-** USA, India, Australia, France, Israel

-**Trials-** USA, India, Indonesia, Australia, France, Canada

# Progress – All Products Summary - 2023

## EdenCrete® - USA

- **Infrastructure** -Highways/ bridges (Georgia, Colorado), Airports (Colorado), Ports (Georgia)
- **Construction**- High rise, factories, warehouses
- **Shotcrete** - infrastructure and commercial
- **Repeat Airport Projects** at Denver International Airport – emerging interest in Texas
- **Swimming pools** – major new market rapidly expanding

## EdenCrete® - International Markets

- **Sales** - Australia, India. **Trials** - New Zealand and Indonesia
- **India - high potential** - Godrej Construction using EdenCrete® in standard concrete mixes.

## OptiBlend®

- **Sales (over past 10 years)** - US, India, Nigeria, Bangladesh, Dubai.
- **India - CY23** Continued market strength anticipated - government combating extreme air pollution.
- **USA - CY23** Modest sales expected after high sales in 2022

## EdenPlast®

- **Commercialisation** - First trials of EdenPlast® master batch. Seeking commercial customer

## Hydrogen and CNT

- **International interest** – Interest from Europe, USA, India in Eden's various technologies.



I-70 Shotcrete project in Denver



Denver Airport- concrete replacement -United Airlines

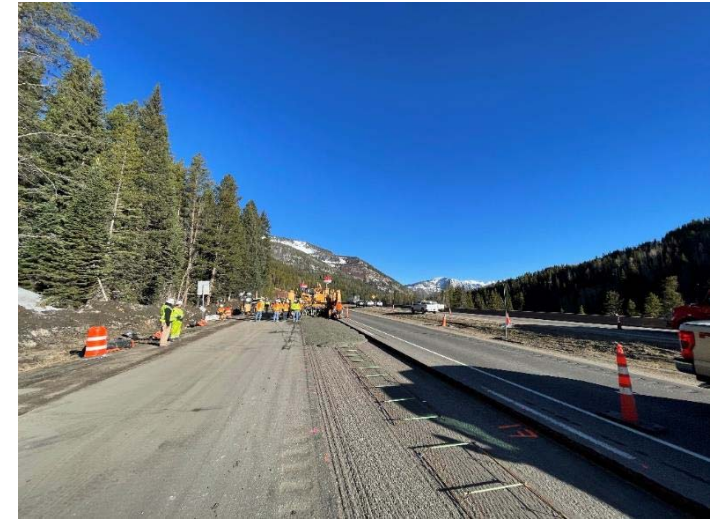


Swimming pool project



## Infrastructure – A Main Target Market

- Roads, Bridges, Tunnels
- Ports and marine applications
- Airports
- Railways
- Dams and water systems
- Bus transit stations / light rail
- Toll Roads
- Public / Private Partnerships



## Drivers Of EdenCrete® Sales Growth in Global Markets

### Infrastructure Funding

- **USA**- US\$110bn- roads /bridges, US\$25bn - airports, US\$15bn - ports -8 years
- **INDIA** - US\$1.35 trillion infrastructure programme (including highways) (announced 2021)

### Low CO<sub>2</sub> Concrete

**Achieved with use of EdenCrete® Pz and Fly Ash (waste from coal fired power stations) to replace Portland cement, resulting in low CO<sub>2</sub>, low cost, high strength, ultra-low permeability concrete.**

- EdenCrete® Pz allows replacement of <60% of cement with low cost fly ash (coal fired power station waste) producing low cost, high strength, low CO<sub>2</sub> concrete.
- Locks up polluting fly ash (includes heavy metals and other toxins) often dumped in land fill, ponds, lakes.
- Reduces CO<sub>2</sub> footprint by~90% of mass of cement replaced - 100kg cement replaced = ~ 90 kgs CO<sub>2</sub> saved.
- **Carbon credits sell in Europe for ~ US\$87/tonne of CO<sub>2</sub> saved**, valuing 90kg of CO<sub>2</sub> at ~ US\$7.83.
- **Price of 1m<sup>3</sup>of average concrete varies from ~ US\$65/m<sup>3</sup> in India up to US\$170/m<sup>3</sup> in USA**
- **The value of 90 kgs of CO<sub>2</sub> saved is ~ 15% of the concrete cost in India**, and ~ 4.6% of the concrete cost in USA
- **India - great potential : 1.4 billion population, major infrastructure expansion; huge coal fired power production**  
- 150 million tonnes p.a. of fly-ash (rising to~500 million tonnes p.a. in 5 years)- works well with EdenCrete® Pz
- **Indonesia** - 270 million population-large fly ash supply -3 major concrete companies in final trials- great results

**Shotcrete/ Pumped concrete** - low dosages of EdenCrete® - less friction/waste, cheaper concrete, lower maintenance

## The Future

- ✓ **Core products- Hydrogen and Carbon Nanotubes-Five current commercial products: EdenCrete®, EdenCrete Pz® and Pz7, OptiBlend®, EdenPlast®, Hydrogen technologies - strong year on year revenue growth anticipated for CY23 and beyond.**
- ✓ **Proprietary and patented technologies and core expertise in manufacturing and production** of carbon nanotubes, hydrogen and carbon nanotube enriched products
- ✓ **High barriers to market entry**, with over 10 years in product development, established direct working relationships with Government departments, plus strong patent protection and proprietary technology across entire product range
- ✓ **EdenCrete®** operates in a global concrete market expected to reach US \$1 trillion and growing at approx. 8% p.a.- proven across all market sectors. **EdenPlast®** opens access to huge plastics market. **Hydrogen** has great potential with global focus on clean energy and lower CO<sub>2</sub> emissions if sufficient use of the CNT can be generated
- ✓ **EdenCrete® Significant US Government traction** with product approval from 21 Departments of Transportation, repeat GDOT contracts in Georgia, road and trial projects Colorado , Ohio, Iowa. Ports. Extra Federal funding.
- ✓ **Strong EdenCrete® sales growth emerging particularly for Low CO<sub>2</sub> concrete** : Sales in 12 US states, trials in 15 US states. Sales in India, Australia, New Zealand, Israel; Trials in France, Canada and Indonesia
- ✓ **OptiBlend® - Sales growing, particularly in India**; many markets applications; major expansion of Indian sales occurring in greater Delhi where due to extreme air pollution, government banned use of diesel-only gensets during winter
- ✓ **EdenPlast®** - First trial with CNT enriched masterbatch; Global plastics market near US \$600 billion and growing at ≈ 3% p.a.
- ✓ **Growing momentum across all current products, many major projects in pipeline that could generate large revenue , and are anticipated to result in strong sales and news flow over CY 2023 and beyond**

**GREG SOLOMON  
EXECUTIVE CHAIRMAN**

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