

**EDEN**

THE NATURAL SOLUTION

**Biological Products Micro-encapsulation  
November & December 2017**



## Introduction

**E D E N**  
THE NATURAL SOLUTION

- Eden is an **industrial biotechnology company** that delivers **Natural Solutions** to challenges in **plant protection, consumer products and animal health**.
- Eden's **key markets** include **biopesticides** for high-value crops, **conventional pesticides, human and animal health**.
- There is **excellent potential** for the application of **Eden's Sustaine™ encapsulation technology** and **natural chemistry beyond its current markets**.



## Overview



EDEN  
THE NATURAL SOLUTION

- **Our vision** is to be the leader in sustainable **bioactive products enabled or enhanced** by our novel **encapsulation and delivery** technologies
- **Product sales have commenced** and the company's commercial pipeline is strong
- Eden has **regulatory clearance** for its first product in multiple countries
- Our initial focus is on **protecting high-value crops - improving crop yields and value**
- Our products are **based upon natural chemistries** but deliver **performance, ease of use, and cost on par with conventional pesticides – without residues**
- There is **substantial scope for exploitation** of the core technologies **beyond crop protection**





Board of  
Directors

EDEN  
THE NATURAL SOLUTION

**Tom Lupton - Non-Executive Chairman (December 2012)**

Tom studied Agriculture and Forest Sciences at Oxford University, and spent 23 years working with the Commonwealth Development Corporation developing and managing large agribusiness companies in Southern Africa, culminating in being Managing Director of the Royal Swaziland Sugar Corporation. On returning to the UK, Tom was appointed to the Board of Linton Park PLC (2002-2006) as Executive Director responsible for the group's worldwide agribusiness investments. Tom has wide experience as both an Executive and Non-Executive PLC Director, including directorships in Australia and Kenya, as well as having been a director of over 30 unlisted companies.

**Sean Smith – Chief Executive Officer (September 2014)**

Sean has an honours degree in microbiology and over 25 years of experience in the speciality chemicals and industrial biotechnology industries. He has held commercial leadership roles ranging from senior sales and marketing management to business management and intellectual property licensing in blue chip companies such as Ciba (now BASF) and Honeywell. Recently, Sean has focussed on technology commercialisation through licensing and company formation working with Intellectual Ventures and several start-ups.

**Alex Abrey - Chief Financial Officer (September 2007)**

Alex, a Chartered Certified Accountant, joined the Board in September 2007, having been Chief Accountant to Eden for the previous four years. With a background in audit, he has also acted as Finance Director to a diverse range of businesses including a financial and management consultancy business, a medical waste management company and an intellectual property licensee involved in plastics manufacturing.

**Robin Cridland – Non-Executive Director (May 2015)**

Rob currently serves as Chief Financial Officer and Company Secretary of Itaconix plc. He joined Itaconix (then Revolymer) in September 2008 from Renovo Group plc where he spent seven years as Executive Director of Finance and Business Development. He has been centrally involved in the listing of both businesses and in a number of significant licences and other product commercialisation deals. Rob has a first-class honours degree in Natural Sciences from the University of Oxford.

**Lykele van der Broek – Non-Executive Director, Chairman-Designate (October 2017)**

Lykele has over 30 years of experience in the agriculture sector. He was previously Chief Operating Officer and a member of the Board of Management at Bayer Crop Science, Head of Bayer Animal Health, and is currently a Non-Executive Director for FTSE 250 constituent, Genus plc.



**Dr Gary Ostroff - Principal Investigator (2004)**

A biochemist with over 30 years of research and development (R&D) experience in the biopharmaceutical, functional food and dietary supplement industries. He has served as Vice President of R&D for several US companies, including Biothera Inc., Amerifit Nutrition Inc., and Alpha-Beta Technology.

**John Edmonds - R & D Manager (May 2008)**

John has held various roles in R&D and product development working for Cyanamid, Rohm & Haas, and Dow AgroSciences.

**Michel Villeneuve - Senior Commercial Advisor (May 2016)**

Mr. Villeneuve has over thirty years' experience in a variety of senior commercial, regulatory and management roles at Dow AgroSciences including the leadership of businesses in various countries throughout the EMEA region. Mr. Villeneuve also has extensive experience in advising high-growth companies in the Plant Protection Sector in markets including fungicides, nematicides and plant nutrients.

**Peter A. Watson - Regulatory Strategy Advisor (September 2016)**

Mr. Watson began his career with the UK pesticide Competent Authority before holding various senior regulatory roles with Dow AgroScience Services over 30 years.

**James Clovis - Business Development (April 2017)**

James has over 20 years of experience in agriculture and horticulture. He began his career as an agronomist. He then spent 10 years at Syngenta within the Crop Protection, Bioline and Seeds businesses. James later joined Certis Europe and managed the UK business as Country Head.

**James Kennedy - Product and Project Management (April 2017)**

James has a degree in plant and crop science and joined DuPont working within their R&D department running field trials. James moved on to become a Regional Account Manager for DuPont before joining Certis.



What we do



**Technology development and commercialisation company: revenue from the exploitation of our intellectual property (“IP”)**

- **Product sales**, licensing and evaluation fees, and running royalties

**Partnership model:** partner with sector-leading companies to **develop and commercialise products**

**Asset-light approach:** **outsource research, development and regulatory functions** to experts

- Expert data and advice, **as and when needed**

**Patented platform technologies (Sustaine™):**

- **Effective, high-value bioactive products** using actives from plant extracts (**terpenes** – highly effective, quick decay)
- **Improve existing conventional products**

Eden by  
numbers

**E D E N**

THE NATURAL SOLUTION

**£12**  
**million**  
invested in IP  
& registrations

**10**  
countries  
have granted  
product  
authorisation

current trials on  
**5**  
continents

**120+**  
granted and  
pending  
patents

**29**  
countries with  
pending  
registration  
applications

**44**  
countries with  
IP protection

## Target markets



Botrytis-infected strawberry



Powdery mildew infected cucurbit plant

### ● **Biopesticides – Projected to be worth \$6.9 billion by 2020**

- Fungicides: Botrytis, powdery mildew, downy mildew
- Molluscicides: slug and snail treatment
- Insecticides: mites and white flies

### ● **Conventional pesticides – Projected value of \$76.8 billion by 2020**

- Co-encapsulated conventional synthetic pesticides
- Formulation delivery systems

### ● **Animal health – Overall value estimated to exceed \$33 billion by 2020**

- Companion animal flea and tick products
- Odour control
- Ear, coat and skin care products

Our customers

EDEN

THE NATURAL SOLUTION

Global and regional industry leaders who wish to add value to their products by:

- producing more effective treatments, improving **consumer appeal, safety and efficacy**
- **extending the shelf life** of existing patents
- surmounting **regulatory hurdles**
- improving **resistance management**



Bayer HealthCare  
Animal Health



K+U. Efthymiadis



SIPCAM



**EASTMAN**

Our  
technology

EDEN

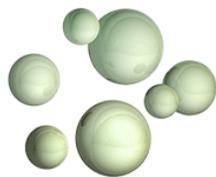
THE NATURAL SOLUTION

Eden owns the **patents** behind the “**Sustaine™**” delivery and release technology

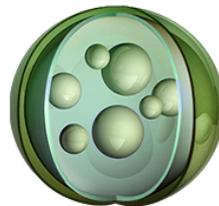
**Sustaine** is a **natural microencapsulation system enabling the slow release and improved bioavailability** of active substances such as terpenes and/or synthetic compounds

The microcapsules are derived from **yeast cells**; a waste product from the baking, brewing and bio-ethanol industries.

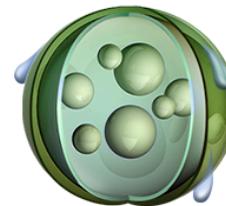
Cost-effective, high capacity, robust, natural and **simple processing with standard equipment**



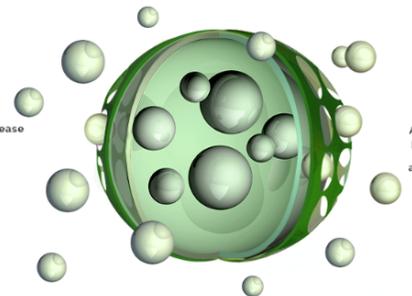
Active ingredient



Encapsulated Payload  
Stabilised Aqueous Emulsion



Payload release  
on contact  
with water



As particle dries,  
pores close and  
trap remaining  
active ingredient



Biocontrol  
products



- Terpenes have well-documented **biocidal activity** but difficult to use commercially due to their inherent **volatility**
- The ***Sustaine*<sup>TM</sup> system** allows these volatile, poorly water-soluble active substances to be delivered to their target in a controlled manner, over time
- Using *Sustaine*, Eden and its partners have been able to create a **range of natural products** with **superior efficacy**
- Terpenes are widely used and diverse – **low cost, regular supply**
- Yeast cells are a waste product – available in **significant quantities** and at **low cost**
- Commercial and development **products perform on par with conventional pesticides** but with **very low pre-harvest intervals**
- Actives are **exempt from Maximum Residue Levels** – a key consumer **driver in fresh fruit and vegetables**

# Products on the Market

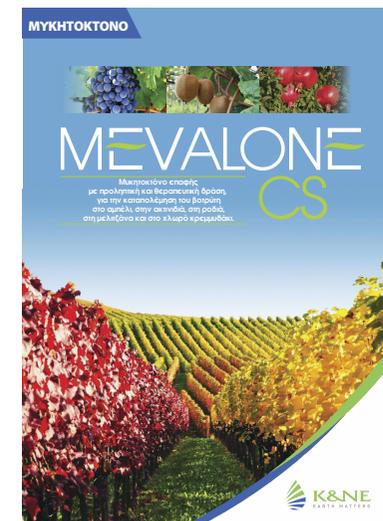


## COMMERCIALISATION STATUS OF 3AEY

Key	Brand Name	Partner	Country
Orange	3logy®	Sipcam	Italy
Brown	ARAW®	Sipcam	Spain
Green	Hawk™	Lachlan	Kenya
Light Green	Mevalone™	Sumi-Agro	France
Dark Green	Mevalone™	Redestos	Greece
Teal	Mevalone™	Redestos	FYROM
Dark Brown	Mevalone™	Redestos	Cyprus
Red	Mevalone™	Redestos	Albania
Light Brown	Mevalone™	Redestos	Romania
Purple	Mevalone™	Redestos	Balkans



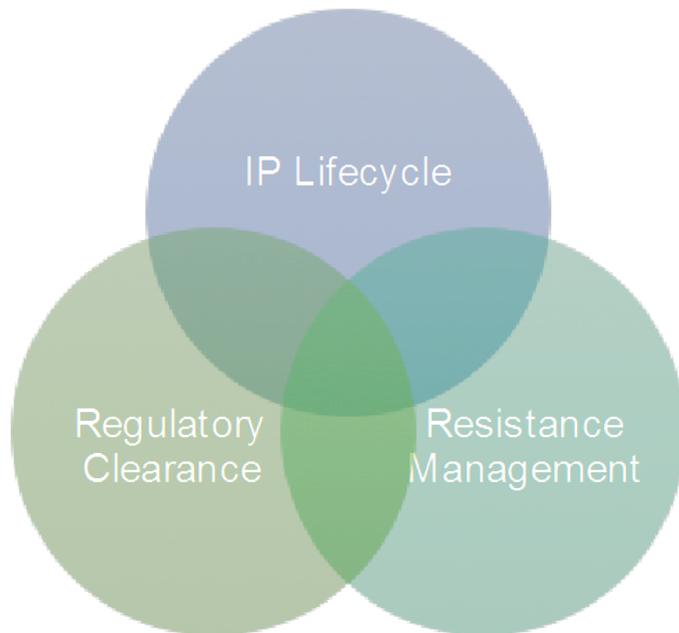
MEVALONE





The *Sustaine*<sup>TM</sup> system adds tangible value to conventional pesticides by:

- enabling sustained delivery, **increasing residual efficacy and potentially reducing use rates**
- **tackling resistance build-up** experienced with conventional molecules
- solvent-free, stable formulations with challenging actives
- providing **further IP protection**
- **naturally binding** to plant and fruit surfaces to **improve efficacy and retention**
- **addressing increasingly difficult re-registration** for conventional synthetic active ingredients
- **improving toxicity class** for formulated products
- offering **flexible formulation options** including powders, liquids, and granules increasing user appeal



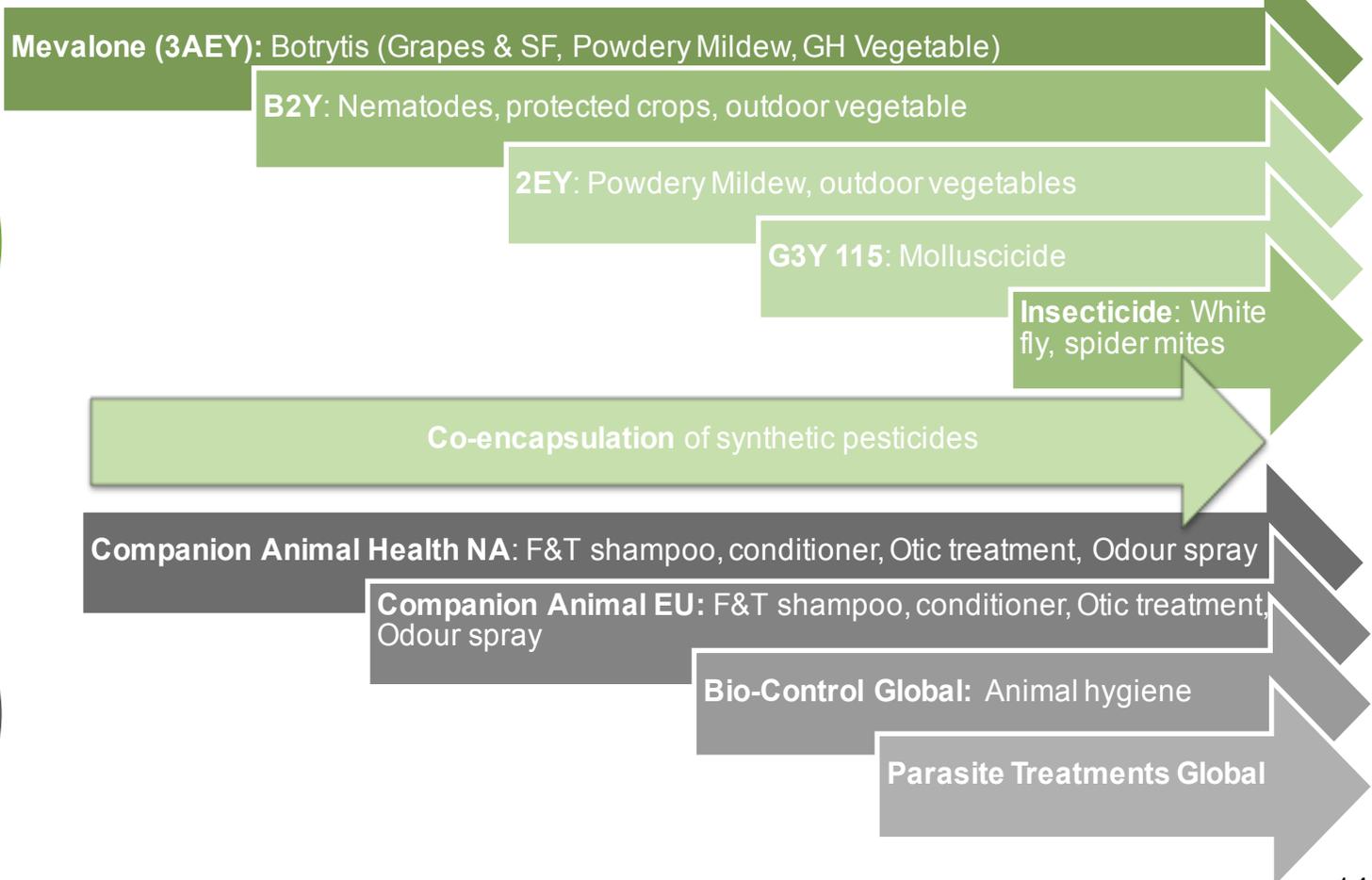


Product pipeline



Plant Protection

Animal Health





A sustainable  
business

EDEN

THE NATURAL SOLUTION

**Eight patent families**, over one hundred-twenty granted and pending applications:

- **Claims cover fundamental composition of matter**, formulations, methods of use, and defensive strategy elements

### **EU Registrations**

- Annex I for 3 active ingredients
- Annex III for “3AEY” – safety and efficacy proven
- Annex IV for 3 active ingredients – exempt from maximum residue levels

**Registrations in France, Italy, Spain, Greece, Cyprus, Albania, Portugal, Kenya, Malta, Bulgaria**

**Two in-licence / collaboration agreements** in place for further IP generation, defence and business development

- University of Massachusetts Medical School
- Xinova LLC (formerly Intellectual Ventures)

What is next?



● **Product registration strategy execution** for key new territories: US, Chile, Brazil, Australia, etc

● **Accelerated development of the encapsulation technology** for conventional pesticides

● **Evaluation of seed treatment opportunities**

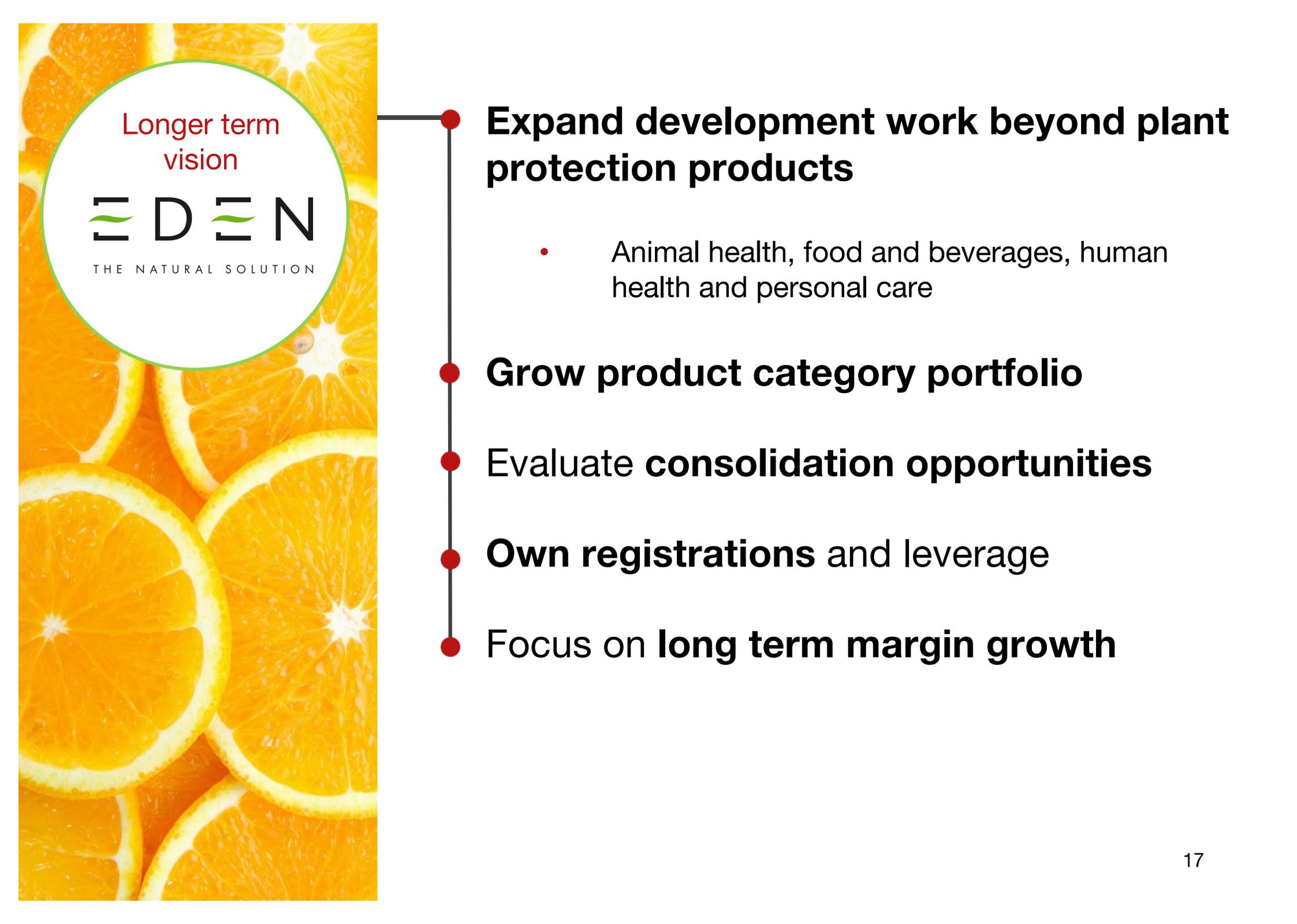
● **Further business model and brand optimisation** to drive revenue opportunities

● **Leverage shorter-term animal and human health opportunities**

● **Develop plant protection product pipeline**

● **Build internal resources** where essential

- technical leadership, capability and capacity
- project management
- business development



Longer term  
vision

**EDEN**

THE NATURAL SOLUTION

## **Expand development work beyond plant protection products**

- Animal health, food and beverages, human health and personal care

## **Grow product category portfolio**

## **Evaluate consolidation opportunities**

## **Own registrations and leverage**

## **Focus on long term margin growth**



Highlights

**E D E N**

THE NATURAL SOLUTION

- **Natural chemistries** create **environmentally compatible** products and support **sustainable agriculture**

- **Regulatory clearance secured** for first product in multiple territories

- **Distribution, licence and evaluation agreements in place** with multiple multinational companies

- **Product sales have commenced** and the pipeline is strong

- Potential to **enhance and extend patent life** for existing **conventional products**

- **Clear scope beyond plant protection** building from existing opportunities

- **Partnership with Xinoa extends patent portfolio** and opportunities to commercialise IP