### **UPDATED COMPANY PRESENTATION – FEBRUARY 2023**

Bio-Gene Technology Limited (ASX: BGT, "Bio-Gene") is releasing the attached Updated Company Presentation in anticipation of a series of ongoing Company briefings which will take place over the next couple of weeks.

The Presentation is on the Bio-Gene website and attached.

Approved for release by the Board of Directors.

- ENDS -

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#### About Bio-Gene Technology Limited

Bio-Gene is an Australian agtech company enabling the next generation of novel insecticides. Bio-Gene's novel platform technology is based on a naturally occurring class of chemicals known as beta-triketones.

Beta-triketone compounds have demonstrated insecticidal activity (e.g., kill or knock down insects) via a novel mode of action in testing performed to date. This platform may provide multiple potential new solutions for insecticide manufacturers in applications across crop protection and storage, public health, animal health and consumer products. The Company's aim is to develop and commercialise a broad portfolio of targeted insect control and management solutions.

# BIO-GENE TECHNOLOGY LIMITED

Addressing the needs of an impending catastrophic problem of pest resistance through the development of unique chemistry

PRESENTED BY

Richard Jagger

CEO

BIO-GENE



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### OUR VALUE PROPOSITION

#### VISION:

We want to contribute to a world that provides a viable future with enhanced quality of life for everyone. We will do so by creating solutions to address the impact of insects and other pests on food security and good health

#### MISSION:

Revolutionising the impact of insect damage in food security and public health settings by developing methods of dealing with insecticide resistance in a safe effective and environmentally friendly manner

### **Bio-Gene has a Compelling Value Proposition**



Natural chemistry is significantly growing in demand by consumers and suppliers



Novel Mode of Action unseen before, proven efficacy



In late 2022 confirmed ability to manufacture at commercial scale



Third-party validation of technology by multiple tier-1 partners Clark Evergreen STK



Strong IP Portfolio with patents out to 2038

Market Cap of \$18.0m (Dec 31<sup>st</sup>)



Cash at Bank of \$4.3m providing 12-month runway (plus \$443K R&D rebate)



\$31.1bn global opportunity for insecticides across five verticals

### OUR STRATEGIC OBJECTIVE



Securing the active ingredient product registrations



licensing fees, milestone payments and royalties by

Bring our unique chemistry to market in partnership with major

players and generate multiple revenue streams from technology

Working with strong commercial partners on product development; marketing and distribution

Developing proprietary manufacturing and production know-how



Potential partnership agreements across multiple geographies and different end-use markets, with collaboration programs now underway in two of our target segments

### ADDRESSING SIGNIFICANT GLOBAL CHALLENGES

The effectiveness of current insecticides is diminishing due to resistance & concerns relating to safety profiles



"Without Crop Protection, crop losses would double each year" CropLife



"No new public health insecticides have been developed for mainstream vector control for 30 years"

CDC<sup>4</sup>

### Food Security & Public Health

Growing Population	Current global population is 8 billion, growing at 70 million p.a. It is anticipated that global population will reach nearly 10 billion by 2050 <sup>1</sup> .
Challenges Of Climate Change	Climbing average temperatures & other weather events impact food production per hectare, increase the habitable environment for mosquitoes
Financial Impact	
Production	Currently 20-40% of food produced globally is lost to pests, valued at around US $2000$ billion p.a. <sup>2,3,4</sup> .
Cost/Benefit	Direct costs due to Malaria infections valued at US\$12 billion p.a., with economic impact many times that <sup>5</sup>
Social Impact	
Vector Borne Disease	More than half the world is at risk <sup>6;</sup> account for 25% of infectious diseases & exacerbate poverty & economic hardship. Potential to grow beyond 50% under climate change scenarios <sup>7</sup>
Less Arable Land	Increased population puts pressure on available land & resources to produce food for today and tomorrow

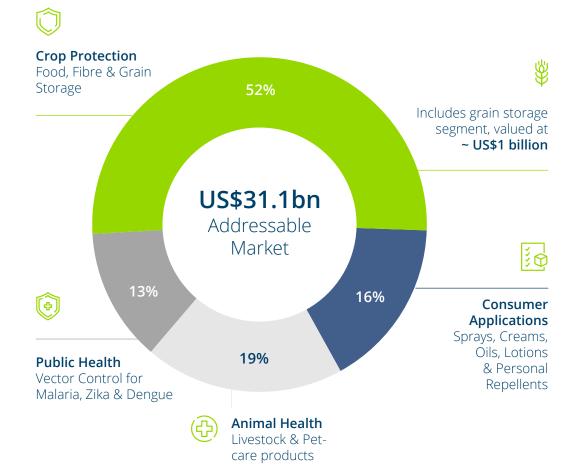
- 4. Food & Agriculture Oranization of the United Nations, 2023
- 5. CDC: Malaria's impact worldwide
- 6. WHO report, 2015
- 7. 6. IPCC6th assessment report: Climate Change 2022: Impacts, Adaptation and Vulnerability, February 2022

<sup>1.</sup> United Nations, "World Population Prospects 2019"

<sup>2.</sup> Oerke EC, Crop Losses to pest J. Agri Sci 144: 31-43 (2005)

<sup>3.</sup> Pimentel D Pesticides and Pest controls. In: Peshin R, Dhawan AK. (eds). Integrated pest management: innovation-development process, 1:83-87. Springer Science (2009)

# OUR TECHNOLOGY ADDRESSES THESE CHALLENGES AND TARGETS GROWING GLOBAL MARKETS



Bio-Gene's insecticide platform has potential application in large, global market segments estimated to represent a total addressable market valued at over US\$31.1 billion



### OUR TECHNOLOGY PLATFORM

# We are developing two products that allow entry into five key market segments

### Qcide™

#### Natural Compound

An extract of a specific cultivar of eucalypt, the Gypmie Messmate

Trees are farmed in concentration by sub-contractors in QLD

The leaves contain oil expressing high levels of Tasmanone, a natural compound that has shown evidence of insecticide efficacy



### Flavocide™

### Nature Identical Compound

BGT has developed a proprietary chemical process with CSIRO to to deliver another Beta-Triketone; a nature identical compound that is able to be produced at commercial scale



Both of our products have potential application in all five of our target market segments

### CURRENT PARTNERSHIP – PUBLIC HEALTH: CLARKE MOSQUITO CONTROL

### Clarke is the largest vertically integrated company in public health mosquito control

### **Results of Phase 2 Testing**

Very positive results indicated the suitability of Bio-Gene products as mosquito control technology

Target formulations identified for progression to Phase 3 field trials

Confidence for both companies to move forward with commercial development

#### Commercial Development Agreement Signed

Development of novel formulations

Phase 3 field testing

Agreement is for the U.S. market

Cost of studies borne by Clarke, with shared report of results

#### Next Steps

Clarke undertaking Phase 3 trials (somewhat weather dependent) using new formulations

Field studies designed to confirm suitability of laboratory developed formulations for field use & EPA registration

Excellent collaboration between the two companies

### Market Opportunity

Initial Field of Use: US\$100m<sup>1</sup>

Global market \$650m<sup>1</sup>



### CURRENT PARTNERSHIP – CONSUMER PRODUCTS: EVERGREEN GARDEN CARE

Evergreen is a market leader in consumer products across Europe and in Australia/New Zealand

### **Initial Field of Use**

Fly & mosquito electric evaporator Ant bait gel and ant spray ROFR to negotiate additional

applications within consumer market

### **Initial Territory**

E.U., U.K., A/NZ

ROFR to negotiate additional territories within consumer market



### Other market opportunities

With Evergreen we are actively exploring additional market opportunities to add to our agreement

### **Revenue Model**

Up-front licence fee

Milestone payments prior to registration

On-going royalties on end-use product sales

Development costs borne by Evergreen

### Next Steps

Continue development of market opportunities

Collaborate on registration activities

Strong relationship is emerging between the two companies

### Market Opportunity

Initial Field of Use: US\$600m<sup>1</sup>

Total European consumer insecticide market: US\$2b<sup>1</sup>

### NEW AGREEMENT SIGNED WITH STK BIO-AG CROP PROTECTION, AQUACULTURE & PROFESSIONAL TURF

### Key Value Points for Bio-Gene

#### Licencing arrangements

Bio-Gene grant STK a world-wide nonexclusive licence to develop Qcide for Crop Protection, aquaculture, & professional turf & ornamental markets

Key markets for Qcide are those that see true value in a 100% natural product – i.e. Public Health & Consumer, both driven by end user sentiment. These (and other markets) have been retained exclusively by Bio-Gene.

### Significant market opportunity

Crop Protection globally is a US\$16.6 B p.a. business<sup>1.</sup>

Flavocide offers the best opportunity for product solutions in this segment. Qcide can be offered to our partners where they identify specific opportunities

#### **Registering Active Ingredient**

Under the agreement, STK will fully fund registration costs for Qcide globally, & own A.I. registration

This creates a substantial saving to Bio-Gene on the road to market access.

Bio-Gene has full access to the registration to work with partners exclusively in public health, consumer, animal health etc, & non-exclusively in crop protection, aquaculture & professional turf & ornamental markets

Bio-Gene can focus resources on Flavocide registration

Where we have interest in Crop protection, the focus (& exclusivity) on Flavocide will give us an advantage Bio-Gene retains IP relating to Qcide

### Opportunities to expand manufacturing capabilities

STK & Bio-Gene will work together to expand production globally. Our strategy has always included multiple production facilities to manage risk and logistics.

Having STK fund a new facility creates substantial savings in money and resources

#### Agency Opportunity

Explore agency opportunities for STK products which can create an early revenue stream for Bio-Gene

<sup>1</sup> Fortune business insights, 2021: Crop protection chemicals market size... 2021-2028.



STK applies advanced botanical science and bio-ag technology in the development & commercialisation of natural crop protection solutions for growers worldwide.

Based in Israel & founded 30 years ago, STK has operations and product registrations in more than 30 countries.

### OTHER ADDITIONAL OPPORTUNITIES STORED GRAIN PROJECT

### Grains Research and Development Corporation (GRDC) Department of Agriculture and Fisheries - Queensland (DAF)

### **Results of Phase 3 testing**

Data show the ability for Flavocide, when used in combination (at low rates) to control the full range of stored grain pests over 9 months for susceptible strains and 3-9 months for resistant strains (commercially acceptable time frame).

### **Further Discussions**

Bio-Gene is discussing next steps with potential partners to progress the commercial development of Flavocide as a stored grain protectant

Bio-Gene is in discussions regarding further support from GRDC





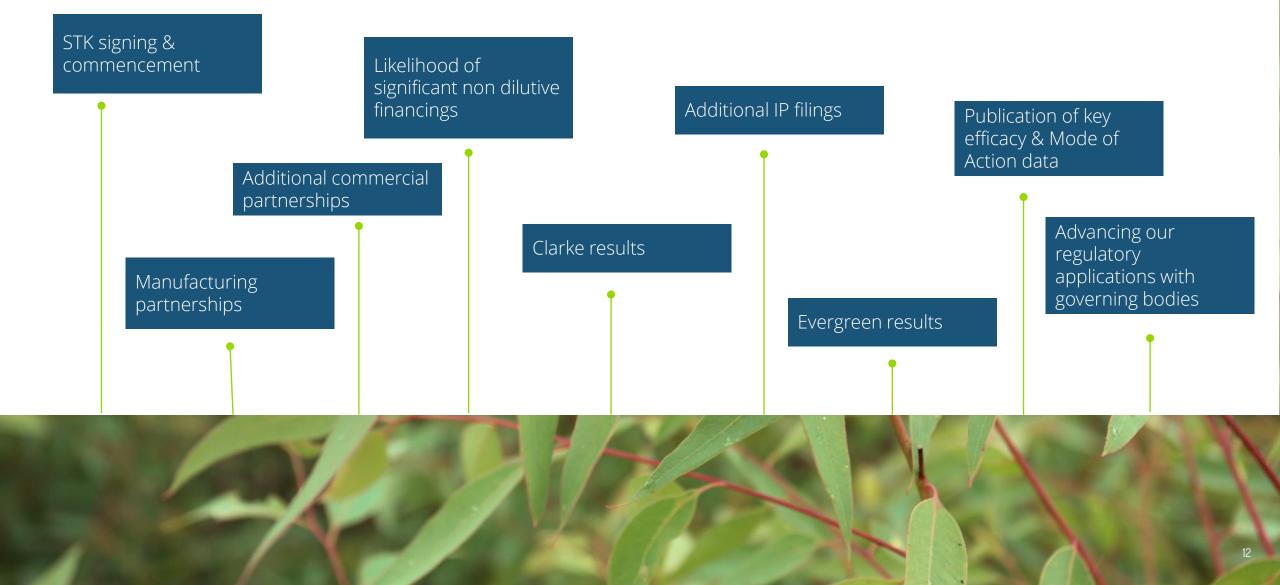
Department of Agriculture and Fisheries Field testing completed Nov/Dec 2021

Final reporting on these results reported in March 2022

Positive outcome allows us to move forward

Significant global potential (A\$1b)<sup>1</sup>

### EXPECTED KEY VALUATION CATALYSTS - NEXT 6 TO 24 MONTHS



### A CLEAR ROAD MAP FOR GENERATING VALUE – MEDIUM TERM 2022-2024

2020-2021

• Efficacy data in

multiple settings

• Advancing safety

and tox testing

Confirming novel

Mode of Action

agreements and

additional MTAs

claims

• Development



- Proof of principle efficacy testing
- Preliminary safety data
- Product formulation concepts
- Testing with 3<sup>rd</sup> parties



- Manufacturing scaleup of Flavocide & Qcide
  - Building regulatory data package
  - Securing initial agreements with commercial partners (Evergreen & Clarke)
  - Creating additional IP (patents technical know-how

 Additional application testing internal and with partners

- Converting additional MTAs into collaborative development agreements (commercial)
- Applying for formal recognition of novel Mode of Action
- Completing data package for final submission
- Securing additional IP

2024-2026



- First regulatory approval and commercial sales
- Additional registration submissions
- Potential new product development program
- Commercial production of Flavocide & Qcide

POTENTIAL UPFRONT AND MILESTONE PAYMENTS, LICENSING FEES



### SUMMARY

- New Mode of Action and "nature identical" technology that delivers solutions critical for pest management globally
- Business model based on controlling IP and registration / partnering with majors.
- Bio-Gene now has commercial validation from three key companies in different market segments crop, consumer, public health
- Third deal with STK represents a significant milestone for Bio-Gene
  - Leaders in development of biological solutions for agriculture & applicable expertise
  - Significant financial commitments that allows Bio-Gene to focus on core opportunities Flavocide (all markets) Qcide (Public Health & Consumer)
  - Potential for distribution rights in Australia/NZ of STK products could deliver early revenue streams
- Strong IP position with a strategy to grow
- Defined regulatory pathway
- Manufacturing capability which can now be applied to additional molecules of interest
- Strong news flow anticipated through 2023 to validate our strategy and deliver further inherent value

ENABLING THE NEXT GENERATION OF NOVEL INSECTICIDES

## BIO-GENE TECHNOLOGY LIMITED



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