



铭泰国际

## Metech International Limited

(Incorporated in the Republic of Singapore)  
(Company Registration Number 199206445M)

### PRESS RELEASE

## Collaboration with China-based High-Tech Enterprise, DMT, to Develop Industrial Applications for Semiconductors with Lab-Grown Diamonds

- *A lab-grown diamond is a diamond: chemically, physically and optically identical to a mined diamond*
- *Due to its inherent properties, diamond is considered to be the most optimal semiconductor material, far outmatching the capabilities of silicon, the industry-standard material for more than 60 years*
- *Lab-grown diamonds are considered as a sustainable source and perfect substitute of mined diamonds*
- *AET has the technological capabilities to produce the highest grade of lab-grown diamonds*

Singapore, 29<sup>th</sup> October 2021 – SGX-listed **Metech International Limited** (“**Metech**” or the “**Company**”, “铭泰国际” and together with its subsidiaries, the “**Group**”), is pleased to announce that its joint venture company, **Asian Eco Technology Pte. Ltd.** (“**AET**” or “易高生态科技有限公司”) has entered into a collaboration with 西安德盟特半导体科技有限公司 (Xi’an Demengte Semiconductor Technology Co, Ltd.) (“**DMT**”) to develop industrial applications for semiconductor with lab-grown diamonds, where both companies will jointly undertake research and development activities in the key areas of diamond semiconductor materials, diamond substrates and diamond metal composites.

Affiliated to 西安交通大学 (Xi’an Jiaotong University), China-based DMT is a high-tech enterprise which specialises in the research and development of cutting-edge and innovative diamond semiconductor materials and the commercialisation of its scientific achievements.

DMT has also established strong working relationships with China's top scientific research institutions such as Suzhou Institute of Nanotechnology and Nano-Bionics, Chinese Academy of Sciences, and Xi’an Jiaotong University. Staffed by several industry experts, comprising professors, researchers and overseas scientists, DMT has built up strong technological capabilities and attained numerous intellectual property rights and patents.

For more information on DMT, please visit <http://dmt-diamond.cn/>

### ***Diamond-based Semiconductors Are Capable of a Greater Range and Energy Efficiency in their Applications***

Almost all computer chips are built on silicon, but diamond can run hotter without degrading in performance (over 5 times that of silicon), is more easily cooled (with 22 times the heat transfer efficiency of silicon), can tolerate higher voltages before breaking down, and electrons (and electron-holes) can move faster through them<sup>(1)</sup>.

(1) <https://www.wired.com/insights/2015/01/the-rise-of-diamond-technology/>



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Diamond-based semiconductors use less energy more efficiently while delivering better performance. They are also more environmentally friendly than silicon and improve thermal performance within a device<sup>(1)</sup>.

Diamonds are more widely known to be used in jewellery but diamonds are also commonly used for industrial applications in medical equipment, aerospace, semiconductors, among others.

Lab-grown diamond is chemically, physically and optically identical to a mined diamond, hence without the need for mining, lab-grown diamonds is a sustainable source of this important material.

AET has recently entered into a 3-year lease agreement for an industrial property located at Kallang that can accommodate up to 30 production machinery for lab-grown diamonds. Production is expected to commence by the end of December 2021 and the lab-grown diamonds will be produced on a bi-weekly basis.

**Ms. Samantha Hua, Deputy Chief Executive Officer and Executive Director of Metech, said: “New researches are unlocking the hidden properties of diamond for next-generation electronics.**

***With the same composition of a mined diamond, lab-grown diamonds can be produced more economically and at a sustainable scale. Hence, we believe that there will be a greater use of diamonds within the semiconductor industry.***

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#### **About Metech International Limited**

(Bloomberg: CENR:SP / Reuters: METE.SI / SGX Stock Code: V3M)

Listed on the Singapore Stock Exchange, Metech International Limited (“**Metech**”) has a multi-pronged business model that aligns with the macro trends in the area of environmental and sustainability.

While proactively evaluating new business opportunities to broaden its business model, Metech continues to build on its capabilities and extend the value propositions of its business units.

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***Issued on behalf of Metech International Limited by 8PR Asia Pte Ltd.***

#### **Media & Investor Contacts:**



Mr. Alex TAN  
Mobile: +65 9451 5252  
Email: [alex.tan@8prasia.com](mailto:alex.tan@8prasia.com)

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*The contact person for the Sponsor is Mr Khong Choun Mun, Registered Professional, RHT Capital Pte. Ltd. at 6 Raffles Quay, #24-02, Singapore 048580, [sponsor@rhtgoc.com](mailto:sponsor@rhtgoc.com).*