

# GLENCAL TECHNOLOGY

*Revolutionizing the world through  
the power of highly advanced  
ion technology*

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## BUSINESS Brochure 2025



An associated partner of Dii Desert Energy





## Company Business

*Innovative solutions for energy,  
environment, healthcare.*

*Customization, sustainability, partnership  
for global impact.*



### ION-BASED SOLUTIONS

*Glencal Technology develops proprietary solutions utilizing ions, pioneering innovative approaches in the fields of energy, environment, food and healthcare.*



### COMMITMENT TO SUSTAINABILITY

*Glencal Technology is dedicated to creating a sustainable future, prioritizing environmental conservation and economic rationality.*

## About Company

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*Glencal Technology Co., Ltd., was established in 2013. With a rich history dating back to 2002, Glencal Co., Ltd. has been at the forefront of investments and M&A advisory work, particularly in the medical and environmental sectors. Recognizing the global potential of a highly advanced ionization technology, Glencal Technology was founded to spearhead its development and commercialization under the guidance of Glencal Co., Ltd.*

*Glencal Technology has since developed RedoxMaster®, which utilizes patented ionization technology enabling unprecedented drying of organic materials and heavy industrial wet waste. This technology has been successfully applied in various industries, such as agriculture, food processing, and waste management, demonstrating its potential to contribute to a global sustainable society where environmental protection and economic growth are compatible.*

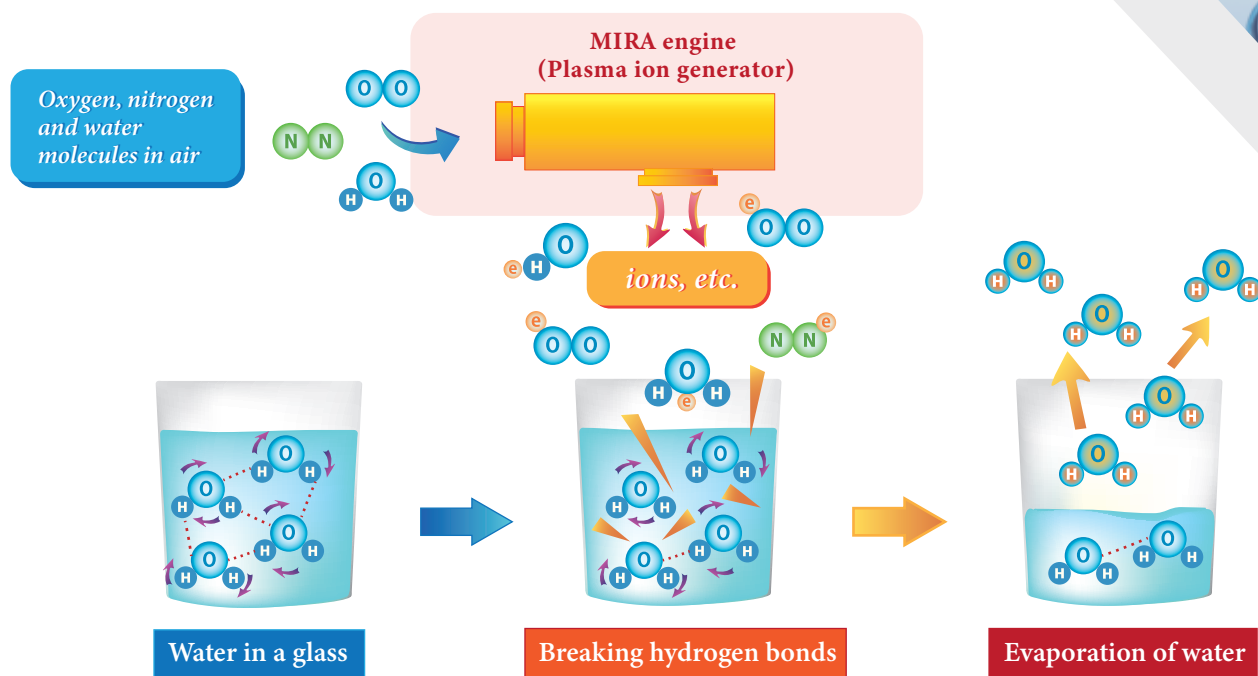
## Strength and Innovation

Glencal Technology's core strength lies in the revolutionary ionization MIRA and RedoxMaster® technology. With the commercialisation know-how and extensive high-end network of Glencal Co., Ltd., we are uniquely positioned to deploy RedoxMaster® drying technology in various fields. Our commitment to this cause is unwavering. We are dedicated to addressing global climate change issues, conflict-induced price spikes in commodities including food, fertiliser, fuel and animal feed, and water shortages. We firmly believe that solving environmental, food and energy problems will indirectly lead to resolving global conflicts, and we will continue to develop and apply RedoxMaster® technology to achieve this.



# Our Unique Technology

Glencal Technology develops, manufactures, and owns the IP for both RedoxMaster® and MIRA. The MIRA engine incorporates highly advanced ionization technology to generate reactive oxygen species and ultra-low energy plasma ions. This facilitates rapid drying of wet materials by disrupting the hydrogen bonds in water to form smaller clusters, enabling swift drying at remarkably low temperatures, thereby delivering substantial energy cost savings and reduced CO<sub>2</sub> emissions.



# Our Solution

Glencal Technology is known for its innovative solutions and offers RedoxMaster®, which incorporates our patented Mixed Ion Reactive Approach (MIRA). RedoxMaster® can dry organic material and heavy industrial wet waste at unprecedented low temperatures without oxidization or carbonization. This diverts existing organic waste material from landfills, allowing it to be reused and commercialized as part of the circular economy.



## Domain of RedoxMaster®





# Why partner with Glencal Technology Co., Ltd.?

*Glencal Technology is a cutting-edge Japanese company that passionately develops and manufactures the groundbreaking RedoxMaster®.*

*RedoxMaster® incorporates the patented mixed ion reactive approach (MIRA), an advanced industrial drying technology renowned for its exceptional efficiency. This scientific method effectively disrupts the hydrogen bond between water molecules, facilitating the low-temperature and cost-effective drying of raw organic material without inducing carbonization or oxidation. Significantly, this process safeguards the integrity of the fibres, nutritional properties, and characteristics of the original material.*

*RedoxMaster® has been proven to generate significant value by promoting the circular economy in both the private and public sectors. It is fully supported and endorsed by Japan Agricultural Cooperatives (known as JA group), and one of Japan's largest feed companies, JA Zen-noh kumiai shiryo Co., Ltd. It has also been approved by the Japanese government's Ministry of Agriculture, Forestry and Fisheries (MAFF) for the "Feed Self-Sufficiency Emergency Measures Project" Subsidy.*

*The purpose of the "Feed Self-Sufficiency Emergency Measures Project" is to improve Japan's self-sufficiency and strengthen the feed production base through measures such as enhancing feed production organizations to increase domestic feed production and sales.*

*Japan's highly-regarded technical development and manufacturing policy focuses on continuous innovation through collaboration between the government, industry, and academia. Now, through the government's vision, initiatives, and leadership, Japan is demonstrating that it is at the forefront of implementing policies to reduce the country's reliance on imported feedstock and associated risks.*

*Per the United Nations, it is projected that food production will need to increase by 70% by 2050 to adequately address global needs. Glencal Technology Co., Ltd. collaborates with industry stakeholders, agricultural authorities, and government regulators to formulate enhanced policies and strategies that enable the agricultural sector to transcend national constraints. This proactive approach serves to accommodate escalating food demands, counteract the depletion of natural resources, and mitigate the strain on global supply chains.*

*RedoxMaster® diverts 100% organic waste from landfills, saving over 2.5kg of CO<sub>2</sub> emissions for every 1 kg.*

- *Currently, most governments worldwide rightly prioritize diverting organic material from landfills due to its well-known harmful environmental impact. However, this approach does not adequately prepare for the growing global food demands."*
- *Conventional methods for treating waste organic materials, such as composting, anaerobic digestion, and incineration, are often associated with significant capital and operational costs. Furthermore, these methods yield limited value and neglect to fully exploit the potential of desiccated organic matter.*
- *For example, if you compare 1 ton of organic waste processed via conventional methods, the results are barely measurable from a financial and environmental perspective. However, when you create 1 ton of dried organic material using the scientific approach of RedoxMaster®, the substantial economic and environmental benefits are very clearly measurable. Refer to the Glencal Technology case studies.*

*RedoxMaster® dries and reuses organic waste material that was previously considered single-use, thus creating a circular economy for food. This process preserves the fibres, nutritional values, and properties of the original material, maximizing the sales revenue of the dried products.*

*Glencal Technology's established and trusted business model presents an unparalleled opportunity to forge dynamic partnerships and sustainable enterprises in global markets. This model champions the circular economy, yielding robust financial returns and wielding influence to shift policymakers' and governments' mind-sets towards maximizing the use of organic materials rather than relegating them to single-use products.*



# President Mr. Masahito NAKAISHI

Mr. Nakaishi worked as an interest rate derivative trader and a private banker at HSBC Tokyo after he graduated from Sophia University with a BA in international law. Since leaving HSBC, he established Glencal Co., Ltd. in 2002, where he has been involved in investment, M&A advisory, IPO consulting, and other management consultancy. He has primarily worked in the environmental business, medical business, and automobile industry. Recently, he has focused on the environmental business. In 2003, he set up an environmental company specializing in electricity optimization technology with his business partners in Australia. The company was recognized as the second fastest-growing company in Australia by the prestigious economic magazine, BRW. Leveraging his vast experience and passion for the environment, in 2013 he established Glencal Technology co ltd to development and manufacture highly advanced technologies aimed at achieving unprecedented results in areas of sustainability to promote the circular economy.

