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MEDIA RELEASE

CDW Holding invents LANFA - a compound to enhance water-solubility and hydrophilicity of substances for commercial and industrial applications

- **Binds with various substances and possible to be applied in the cosmetics, health food and chemical industry products regardless of area**
- **A patent application for LANFA in Japan has been made**
- **Started working with a major trading company and a coating company to study the feasibility of applying LANFA to their products**

Singapore 11 December 2023 – SGX Mainboard listed CDW Holding Limited ("**CDW**", the "**Company**", and together with its subsidiaries, the "**Group**"), wishes to announce their invention of a new water-soluble compound.

The Company's subsidiaries, Tomoike Bio Limited ("**TBI**") and CDW Life Science Co., Ltd ("**CLS**"), have been researching the possibilities and applications of utilising CLS's organic synthesis to create a new compound which can be used in a wide range of industries.

To date, the CLS researchers have invented a water-solubilised chemical compound, ("**LANFA**[1]") which can improve hydrophilicity[2] and water solubility. In July 2023, TBI and CLS have applied for a patent for LANFA in Japan. They will also consider filing an international patent application under the Patent Cooperation Treaty ("**PCT**") in the future.

[1] Protected branched oligo-polyols, compounds chemically bonded thereof, and deprotected thereof
[2] Hydrophilicy means capable of interacting with water through hydrogen bonding

LANFA's unique features and corresponding benefits include:

- Able to synthesize with a wide variety of substances and has customisable hydrophilicity and water solubility properties, therefore **can be used in a wide range of fields and applications**, while **easily adjustable to meet different market needs;**
- Its simplified synthetization process allows for high yield of LANFA, via a small number of reaction processes, which leads to a **low production cost;**
- Water-solubilised compounds possess high reproducibility in production, homogeneity, and quality assurance[3], which would create **high mass producibility and consistency;** and
- It is possible to combine with metals and fine ceramics[4] theoretically, making it **feasible to develop dispersions and solutions of these materials**

Applications of LANFA

Water soluble technology is used in a wide range of substrates and fields, and the Group has identified some commercialization possibilities for LANFA to be applied to cosmetic product ingredients, chemical products and others.

For instance, the cosmetics industry's lotions and essence are in liquid form, delivering various ingredients to the skin for diverse outcomes. Some of the cosmetic product ingredients have poor water solubility and require the use of surfactants that must undergo strict safety testing. With the use of LANFA, the use of surfactants may not be necessary.

The Group is conducting research and experiments on various water-insoluble ingredients used in the cosmetic industry and has identified some promising targets. Bakuchiol, called the next generation of vitamin A ("**Retinol**"), is a Retinol functional analog with higher antioxidant activity that is extracted from plants and in oil form.[5] The Group has succeeded in water

[3]More than 20 types of LANFA are available in basic skeleton, enabling the production of derivatives with high reproducibility and quality assurance.
[4] https://www.agcc.jp/en/product/fc/tabid/187/Default.aspx
[5] Everything you need to know about bakuchiol, the buzzy ingredient that's being compared to retinol | CBC Life

solubilisation of Bakuchiol and has submitted samples to potential customers. The benefits of Bakuchiol include significant improvements in fine lines, pigmentation, elasticity, firmness, and overall reduction of photodamage have been observed with twice-daily application to face. There are published papers to show no undesirable effects associated with Retinol therapy. Other target ingredients in the cosmetics industry include Resveratrol, Pterostilbene, Ceramide and Silicon.

In-house test example
Left : Bakuchiol and Water
Right : LANFA Bakuchiol and Water
(15% concentration and 45 days elapsed time)

Theoretically, LANFA can be combined with metals such as gold, silver, and copper, as well as with fine ceramics including aluminum oxide and zirconium oxide, and the Group believes that dispersions and solutions of these materials are also possible to be developed. Alloys in liquid form at room temperature are well known for their use in the field of heat dissipation, such as circulating cooling. With regard to this field, the Group plans to select targets, gather information, and conduct research for the realisation of this field by the first half of 2024, and prepare materials to determine the feasibility of this project.

In addition, LANFA has anti-fogging and anti-fouling properties due to its hydrophilic improvement function. There is a possibility that these functions can be applied in the area of antifog coating, which is used on a great variety of substrates. This anti-fogging coating has huge potential because it may be used in a wide range of fields such as the building & construction, automotive, aviation & aerospace, electronics, military & security, and medical & safety industries. The global antifog coating market was valued at USD$17.34 billion in 2022

and is expected to grow to USD$22.06 billion by 2029, with a CAGR of 3.5% during the forecast period[6].

The antifog function could potentially be applied to camera lenses used by customers of the Group's core LCD backlight unit business, and for the development of functional films used in both LCD backlight unit business and OA business. Currently, more test data collection and further process improvements are being conducted to increase LANFA's efficacy in this area.

The Group intends to make a proposal to both existing and potential customers to sell LANFA, while expanding the possibilities of licensing-out LANFA to cosmetic ingredient manufacturers and trading companies which handle various products. The Group has already started discussions with a major trading company handling chemical products and a company engaged in coating processing and sales of eyeglass lenses, optical parts and filters to consider the possibility of applying LANFA to the products handled by them.

Mr. YOSHIKAWA Makoto, Chairman and Chief Executive Officer of the Group, said: ***"These R&D breakthroughs are a testament to our Group's growing R&D capabilities and the efforts and hard work of Dr. MANDAI Tadakatsu and Dr. SENOO Yuhki who invented LANFA. We believe in many opportunities that new compound and substance present to various industries including existing business and are also working on dispersion in graphene, which is hailed as a "miracle material". We will continually invest to develop our other non-core businesses to grow and diversify the company."***

The Group will make an announcement on SGXNet when there are any more material developments.

- End -

[6] https://www.maximizemarketresearch.com/market-report/anti-fog-coatings-market/122372/

About CDW Holding Limited (www.cdw-holding.com.hk)

CDW Holding Limited (the "Company" and together with its subsidiaries, the "Group") is a Japanese-managed precision components specialist serving the global market focusing on the production and supply of niche precision components for digital instrument panels in the automobile industry, notebook computers, consumer and information technology equipment, office equipment and electrical appliances, and an original equipment manufacturer. The Group is headquartered in Hong Kong and has operations in Japan, China, South Korea, Thailand and the Philippines. The Company has been identifying new businesses to invest in with the potential for growth and entered as part of its diversification strategy and has made forays into the Life Sciences sector since 2016. The Company's aim for its Life Sciences business is to identify research-driven yet commercialisable projects that can have a positive impact on the quality of human life.

Issued on behalf of	:	**CDW Holding Limited**
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