

Hong Kong Government granted Master Dynamic funding to develop Nano-Diamonds treated healthcare products to fight COVID-19

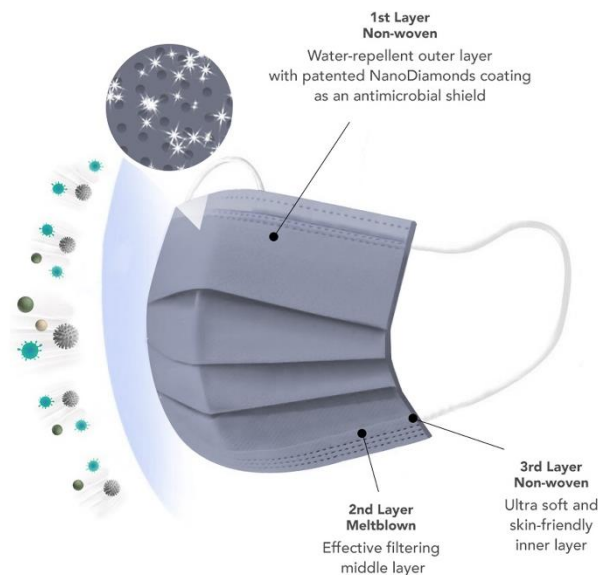
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To help fight and control the COVID-19 epidemic, Hong Kong Government has awarded Master Dynamic (MD), a leading developer of nanotechnology, R&D funding to develop and apply Nano-Diamonds (ND) technology on healthcare products for the medical industry. With a \$1.3 million grant from the Innovation and Technology Commission (ITC) of the Hong Kong Government, MD will focus in the development and production of ND treated surgical mask, which has self-disinfecting function by treating regular surgical masks with ND infusion or patented coating technology. The newly invented masks will be available in Q4 2020.

In June 2020, the World Health Organization recommended widespread mask-use as a way to prevent COVID 19 transmission. Regular surgical masks in the market provide only filtration function and they cannot inhibit or kill bacteria and viruses that are on the mask. Mask wearers' hands can be contaminated when they touch the mask surface unintentionally during the gown up and gown down process. ND treated mask can alleviate the problem of hand contamination and improve mask protective power as:

1. ND contains highly electrostatically charged functional groups. When bacteria or virus come into contact with ND, the charged surface property destroys the cell membrane.
2. Adhesive and highly charged property of ND becomes a stun gun to suppress and inhabit bacteria and virus. ND can make the mask surface no longer suitable for bacteria growth and reproduction that leads to further infection.
3. ND are non-toxic and biocompatible to human

In this invention, MD applies ND to surgical masks to improve their protective ability of conventional surgical masks. Viruses or bacteria in contact with ND treated surgical masks are expected to be automatically degraded and disinfected. ND is bio-degradable, with a low to zero environmental impact during the manufacturing process.



With the support from the Hong Kong Government and partnership with a number of industry partners, MD will further create values and contribute to the community by developing ND coating and self-disinfecting technology for different industries.

ABOUT MASTER DYNAMIC

Established in 2011, Master Dynamic Limited (MD) is a Hong-Kong-based research and development company with an engineering team of 70 engineers, researchers, scientists and software developers who specialized in developing technology and solutions related to anti-counterfeit technology, material analysis, nanotechnology and nanofabrication. Over 80 invention patents were granted to MD since its inception. MD's headquarter and two well-equipped laboratories are located at Hong Kong Science and Technology Park (HKSTP). The 6,000 sq. ft. NanoTechnology Applications Centre (NTAC), one of MD's laboratories, houses state-of-the-art facilities for material analysis as well as a number of test and measurement equipment. NTAC is where many of MD's advanced technologies are developed over the years. It serves as a focal point of MD's technology development cooperation with leading research institutions such as MIT, Harvard University and Carl Zeiss AG.

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