

Well Being Digital: **Hearables for Health**

With its research base in Hong Kong and advanced manufacturing facilities in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), Well Being Digital (WBD101) is ideally positioned to develop, test and market its advanced hearables technology.

In his office at the Hong Kong Science and Technology Park (HKSTP), CEO of Well Being Digital Kow Ping imagines a common scenario. "You fall over, hit your head, and get taken to hospital for a scan. Nothing shows up, and after observation you're sent home – but sometimes a clot forms hours later and you're on your own. You can't have CT scans at home, and they may not pick up brain haemorrhaging or blood clots anyway." Now solutions look like being on the horizon. "As sensing technology and algorithms become more advanced, companies like ours are exploring the use of new technology that can extrapolate brain temperature through the ear, detecting rises in brain temperature due to blood clots or brain haemorrhaging," says Kow Ping.

WBD101 develops sensing arrays and algorithms for 'hearables' – smart headphones or earbuds – that do much more than simply provide audio input. The company is developing hearables that can also measure and monitor key internal body functions, including heart rate, respiratory rate, core body temperature, blood oxygen levels, continuous in-ear temperature and even brain temperature. "The ear is actually an excellent place for measuring all sorts of vital signs," says Kow Ping, "and our team is breaking new ground in applying advanced algorithms to maximise and apply the information we can obtain from it."

This is advanced stuff, requiring a high-powered research and design team that works in close collaboration with universities and hospitals across the region. WBD101's researchers have performed product tests and trials in collaboration with the Chinese University of Hong Kong, Shenzhen University Hospital, the National University of Singapore, Universiti Kebangsaan Malaysia, and the Prince of Wales Hospital in Hong Kong, to name a few.

Kow Ping is a proud Singaporean, but he insists that Hong Kong is where WBD101 needs to be. "The HKSTP is a unique place with a fantastic cluster effect," he says. "In the corridors, I'll often bump into experts from



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CEO

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different fields who provide insights into our own challenges." HKSTP is also good at organising initiatives where his company can show off its products and technologies, like a recent event organised with the Hong Kong Housing Authority where participants were given free body check-ups – a perfect showcase for WBD101's technology.

But the atmosphere of constant innovation at the HKSTP is only one aspect of Hong Kong's many value propositions. "With our factory support team just over the border in Shenzhen in the GBA, we enjoy the best of both worlds," says Kow Ping. "On the one hand, we benefit from Hong Kong's medical research prowess and the availability of graduates from many of the world's top-ranking universities. On the other, we can tap into Shenzhen's rapid prototyping skills and advanced manufacturing capabilities and the fact that, with 90 percent of the world's major earphone brands having manufacturing facilities in the GBA, it is a world-leader in earphone manufacture."

That's not the only reason why the GBA is so important to WBD101 though. "We're looking at a common GBA market of 86 million people," says Kow Ping, "and we see it as a huge potential market for us." He points to the fact that the current sales ratio of hearables to smart watches is 3:1 – that is, hearables are selling more than three times better than smart watches.

Another advantage of the GBA is that it is easy to conduct product trials there. Across Asia, the diversity of jurisdictions, systems and languages is reflected in multiple regulatory procedures for new medical devices and drugs. In the GBA however, things are much simpler. Cantonese and Mandarin are commonly spoken in both Hong Kong and the GBA, and the two areas share many common regulatory processes – for example, Hong Kong-registered medical devices used in Hong Kong public hospitals can also be used in the GBA.

A further advantage of Hong Kong for WBD101 is the amount of government



assistance. "We've been well-supported by the government both directly and indirectly over recent years," says Kow Ping. For instance, the company won a valuable Innovation Award at the City I&T Grand Challenge 2021 and won a valuable landing opportunity. "We also received multiple government grants to commercialise our product for stroke and cardiovascular tele-rehabilitation and remote patient monitoring," says the CEO, "along with help from HKSTP in deploying the product in local elderly homes and hospitals."

Well Being Digital has big plans for the future, including tapping into the vast potential of the GBA and China market as its products mature. "Hong Kong really is a launchpad for innovation, and a fantastic connector with the talent and the potential of the GBA," says Kow Ping. I can't think of a better location for a company like ours to be."

Well Being Digital Limited

- Well Being Digital is an award-winning company specialising in the next generation of hearables technology
- Well Being Digital's products are opening new doors in health monitoring and treatment by detecting and monitoring vital bio-signals through the ears
- Well Being Digital is also one of the Government's "Designated Local Research Institutions" (DLRI)

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