Letter of Support

This letter aims to express strong support for the much-needed initiative **EnviroMon** by **Microbiological Monitoring Systems Ltd (MMS)** targeting the growing crisis of fungal infections and antifungal resistance.

Fungal infections are frequently opportunistic, disproportionately affecting immunocompromised individuals, and can arise both in hospital and community settings. Low- and middle-income countries (LMICs) face an especially high burden. A 2017 study estimated that 1.78% of the Pakistan population suffers from serious fungal infections*. Hospital environments are particularly vulnerable, as fungal spores can spread easily, resulting in severe hospital-acquired infections in immunocompromised patients and contributing to high morbidity and mortality. Each year, over 2.1 million individuals develop invasive aspergillosis, which carries a staggering 85.2% mortality rate. Chronic pulmonary aspergillosis affects an additional 1.84 million people annually, with an estimated 18.5% mortality (340,000 deaths) **. These figures underscore the urgent need for innovative surveillance, rapid detection, and early intervention tools.

In this context, the EnviroMon offers an important and timely solution. It provides real-time, accurate monitoring, identification and recording of pathogenic microbial spores**.** This technology reduces the burden on laboratory staff for conventional environmental monitoring in critical care units. Its standardized, globally aligned approach to microbial spore identification support the best practices in infection control.

For LMICs—where the burden of fungal infections is particularly severe—the EnviroMon could be transformative. Real-time, actionable data generated by the platform would support immediate and informed clinical decision-making, improve patient surveillance, and enable early intervention. Importantly, strengthened detection and control of resistant fungal infections would also help reduce the high treatment costs associated with antifungal therapies, easing the financial burden on patients and health systems.

We strongly support the work of MMS and recognize its potential to make a significant impact in reducing the burden of fungal infections globally. Following successful clinical validation and affordability, this represents the kind of breakthrough technology that Pakistan's healthcare system would be eager to adopt. We look forward to seeing its implementation in LMIC settings, where it can play a crucial role in saving lives and enhancing public health responses.

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* Jabeen K, Farooqi J, Mirza S, Denning D, Zafar A. Serious fungal infections in Pakistan. Eur J Clin Microbiol Infect Dis. 2017 Jun;36(6):949-956. doi: 10.1007/s10096-017-2919-6. Epub 2017 Feb 4. PMID: 28161741
**Denning DW. Global incidence and mortality of severe fungal disease. Lancet Infect Dis. 2024 Jul;24(7):e428-e438. doi: 10.1016/S1473-3099(23)00692-8. Epub 2024 Jan 12. PMID: 38224705.