Innovate UK Business Growth is the new name for Innovate UK EDGE

Business Forum & B2B Meetings with UK Antimicrobial Resistance (AMR) Industry Delegation

June 24-26, 2024 I ITC Kakatiya, Hyderabad

June 27-28, 2024 I Bengaluru

Company Profiles

In market partner

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Attomarker Ltd	

Business Overview and Specialist Area: Attomarker has developed a core platform technology that can measure 10 biomarkers simultaneously from a drop of sample such as blood, saliva or CSF. We are developing AMR testing in humans and animals to provide a first differential diagnosis between bacterial viral infection or co-infection. Additional markers can be added for specific diseases such as Dengue, Malaria and COVID.

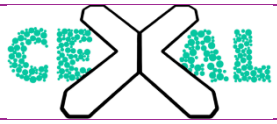
The results are fully quantitative, mass-standardised leading to multiplexed diagnosis using machine-learning clustering and rapid accurate patient intervention, targeting antibiotics where it is needed. We are preparing new tests for pandemic preparedness for both animal zoonosis and human transmission.

Visit Objective: To establish an AMR trial opportunity for our Human Infection Chip, explore manufacturing opportunities in India and meet with Indian investors.

Barefoot Lightning Ltd	

Business Overview and Specialist Area:
We provide last mile veterinary support services for paravets, community animal health workers and farmers, using an animation based platform to support symptom identification and machine learning algorithms to support veterinary clinical diagnoses and prescriptions.

Visit Objective:
- To identify partners from the UK and India who can provide additional penside and lab diagnostics to augment our last mile agent services
- To identify partners to support validated and assessed ethnovet / herbal medicinal solutions to reduce overuse of antibiotics
- To identify partners for vaccines and veterinary medicines to deliver through our projects in India and Africa

Cexal Ltd	

Business Overview:
Cexal Ltd is at the forefront in developing innovative single-step diagnostic solutions for infection and antimicrobial resistance (AMR). Our tests are simple, rapid and cost-effective tailored for a wide range of healthcare settings.

Specialist Area:
Our expertise lies in the development of cutting-edge diagnostic solutions:
FluoCDx is our phenotypic diagnostic test that quickly identifies gram-specific bacteria and determines antimicrobial susceptibility within 25 minutes. *FluoCDx* provides accuracy like the gold standard culture test. *RapidPath* is our genotypic diagnostic test that detects species-specific bacteria and resistance genes in just 30 minutes and enables comprehensive AMR screening. *FluoCDx* and *RapidPath* tests are single-step, low-cost tests designed for easy use across diverse settings, from rural clinics to sophisticated laboratories - guiding the selection of appropriate antibiotics.

Visit Objective:
Our participation in the GBIP aims to establish strategic partnerships with local healthcare stakeholders, understand the need and challenges of the Indian market for AMR diagnostics, and navigate the regulatory landscape to facilitate effective market entry. This participation will enable us to align our diagnostic technologies with India's healthcare needs, fostering better AMR management.

Cytecom	Cytecom

Business Overview and Specialist Area:
Cytecom's technology utilises optical electrophysiology to rapidly detect and differentiate between proliferative and inhibited bacterial cells. Cytecom is developing its technology into a rapid diagnostic test to reduce the time for targeted antibiotic selection from days to seconds. Clinical samples, such as blood or urine, are exposed to a range of antibiotics before being subjected to a quick electrical stimulation to detect resistant bacteria, which light up in response to the shock in just 45 seconds. Robust data analysis at the single-cell level provides enhanced antibiotic susceptibility results in unbeatable timescales.

The battery-powered prototype is also ready for research and development applications which could be of particular use for antibiotic manufacturers seeking to expedite the quality control assessment of their products. Packaged into a toaster sized device, this cutting-edge approach is being co-developed with the UK's National Health Service. Cytecom's initial focus is on the unmet high-value market of blood infections and sepsis, providing £100 million in savings over three years. With the recent endorsement of a £1.5 million UK government contract, Cytecom is bringing a new era of antimicrobial susceptibility testing. Promising to transform patient care and confront the global threat of AMR.

Visit Objectives:
- Gain comprehensive insights into the clinical diagnostic landscape in India, with a focus on understanding prevalent challenges related to antimicrobial resistance.
- Explore synergies and contrasts between the healthcare ecosystems of India and the UK, in the context of diagnostic technologies.
- Understand the efficacy testing processes undertaken by drug manufacturers and identify potential time and cost savings through the use of Cytecom's technology.
- Identify potential collaborators for innovative projects, including **clinical partners** enthusiastic about innovation to drive clinical evaluation, **researchers** interested in further exploration of the field of optical electrophysiology and antimicrobial **drug manufacturers** looking for a rapid solution for QC of their products.

Erebagen	EREBAGEN

Business Overview and Specialist Area:
Erebagen, a UK based synthetic biology company, has created an engineering platform for the discovery and development of novel bioactive compounds sourced from microbes. Leveraging this platform, we are dedicated to finding and developing new therapeutic solutions.

Visit Objective:
We seek partners with an interest in specific disease areas where our platform can be leveraged to discover new hits and we can work with to develop these into new medicines. Additionally, we are keen to collaborate with partners possessing complex molecules and are seeking derivatives or more sustainable and cost-effective pathways for their production.

Folium Science	folium science

Business Overview and Specialist Area:
AgriFoodTech startup delivering CRISPR/CAS based diagnostic, pathogen control (e.g., *Salmonella,* pathogenic *E. coli,* Clostridia*)*, and microbiome modulation (e.g., greenhouse gas emissions reduction) solutions.

Visit Objective:
Assess need for *Salmonella* or other rapid diagnostics for use in AgriFood space, gain more understanding of regulatory landscape for GMO probiotics, connect with potential collaborators, manufacturers, and investors.

LightOx Limited	LIGHTOX®

Business Overview and Specialist Area:
LightOx has developed a range of light activated technologies, on a platform that spans diagnostics, infection and oncology. The company has recently raised significant investment to allow the programmes to move towards clinic, and develop these technologies in a number of fields. Our work in diagnostic products relates to the fact that our molecules are both fluorescent and have Raman signatures, allowing diagnosis to be easily made with minimal infrastructure. Specifically, we look to use our molecules to target the bacterial sites, identifying the species causing the infection, and allowing treatment using the same molecule through light activation.

Our CEO, Dr Sam Whitehouse, has worked in diagnostics for much of his career, focussing on low cost, point of care solutions for LMIC settings, and has successfully launched products in the area following collaborations with both NGO's. Our target market for a number of our products will be focussed on collaborations based within India.

Visit Objective:
We spent a few months (pre-covid), trying to develop our India strategy for LightOx, and this unfortunately was made impossible during the pandemic. Our hope is that the GBIP will help us to raise our profile in the region, gain further collaborators, and to ultimately launch products that are specifically designed to suit the settings that India presents. By engaging early with those based in country, we look to specifically design products to solve the issues highlighted here, and to gain a better knowledge of how to operate in India through partnerships.

Microbira Limited	

Business Overview and Specialist Area:

- Microbira has created an Artificial Intelligence-driven solution to microbial identification- the Microbira Advanced Analytical Platform Infrared, (MAAP-IR). This infrared, internet- based solution achieves rapid identification of microorganisms directly from microorganism cultures and positive blood samples. Microorganisms from clinical, food, veterinary and environmental sources can be identified.

Microbira's platform addresses several healthcare challenges:

- **Faster microorganism identification**: Currently MAAP-IR can identify over 40 species of bacteria and clinical yeasts (70% of hospital routine samples) including difficult to distinguish pathogens, in under 5 minutes. Bloodstream infections create a significant economic and health burden. Microbira is piloting a process for reducing the time for microorganism identification from blood from days to minutes.
- **Combatting Antimicrobial Resistance**: Microbira's precise identification technology is a potent tool in selecting appropriate antibiotics, avoiding the need for Gram staining. Our system can identify species not recognisable by other techniques. This addresses a significant gap in microbial identification, especially important in cases of closely related organisms that pose serious health risks.
- **Expanding Diagnostic Accessibility**: The low capital cost of the hardware coupled with internet access to our AI identification software package benefits smaller labs and offers improved patient care in in remote areas, removing the need to transport samples long distances.
- **Cost savings and Sustainability**: The technology eliminates the need for multiple chemicals used in Gram staining, aligning with efforts to reduce carbon emissions in healthcare, from chemicals, medicines, and disposables. The MAAP-IR workflow sidesteps the need for plastic disposables and harsh chemicals.

Visit Objective:

To find partners for further development of our technology as well as manufacturers of spectrometers capable of test automation. India's extensive research efforts to combat AMR, coupled with its readiness for innovative solutions like MAAP-IR, make it an ideal setting for validation and integration of our technology. Our work with India would directly be in line with the healthcare needs specified by the Innovate UK's 2023 Global Expert Mission Report emphasising the demand for advanced diagnostics and AI-driven predictive models for early disease detection at various the state and national levels.

Phytoceutical Ltd	

Business Overview and Specialist Area:

Phytoceutical is a UK-based micro-SME focused on combating Antimicrobial Resistance (AMR) and improving tissue recovery. Our patented nano-micellar technology delivers bioactive compounds with demonstrated efficacy degrading biofilms and controlling bacteria critical to the WHO's AMR priority list with added secondary tissue healing. Stable prototypes are made and cosmetic grades are commencing scale up.

Visit Objective:
As a company specialising in novel bioactive delivery platforms for wound care, we recognise AMR as a growing barrier to effective wound healing. India, with its unique wound care challenges and high AMR burden, presents a vital learning ground, an opportunity for India UK collaborations and to explore the market potential for introducing our wound care solutions in India. Distribution and licensing for cosmetic grades are also of interest to explore. We have existing connections with ingredient suppliers in India and are also looking for manufacturers of high purity retinol and to connect with manufacturers to scope making products in India.

Presymptom Health	Presymptom Health

Business Overview and Specialist Area:
Developer of diagnostic tests and interpretive software to diagnose infection presence & severity and thereby support antimicrobial stewardship and early diagnosis of sepsis. Existing infection diagnostics are slow, lack accuracy, and are often unable to distinguish infection from colonization. Consequently, treatment is typically empirical and imprecise, fuelling AMR and disease progression to sepsis. Presymptom's machine-learning-derived tests leverage highly sensitive immune system host response genomics to rapidly confirm the presence/absence of infection at an early stage, inform stewardship and prevent progression to sepsis. The tests are designed to run on standard PCR instrumentation.

Visit Objective:
- To identify potential diagnostic co-development partners to support product development and commercialization for the Indian market
- To improve understanding of Indian AMR landscape and network with key clinicians and other stakeholders

Ramanomics	RAMANOMICS

Business Overview and Specialist Area:
Rapid Microbiology Diagnostics within 3 hours

Visit Objective:
Explore business opportunity for the Indian Market, both clinical and research

Rapidx Bio	rapidX

Business Overview:
Rapidx Bio enables under 10 minute disease detection for microbial disease and antimicrobial resistance with zero technical knowledge requirement and direct sample-to-answer, using a portable, low-cost and gold-standard disease detection technique developed at the Cavendish Laboratory at University of Cambridge.

Specialist Area: Invitro Diagnostic Technology for Microbial Disease

Visit Objective:
To develop ties with major hospital chains for adoption of technology. Open to clinician and pharmacy involvement. Also looking to get through regulatory barrier for adoption in India which is the primary market – with a focus on Urinary Tract Infections and Sexually Transmitted disease to be expanded to other areas.

TaBriX Ltd	TABRIX

Business Overview and Specialist Area:
First-in-class therapeutics against chronic & difficult-to-treat bacterial infections.
TaBriX Ltd is a R&D based biopharma company spin-off from the University of Manchester (UoM), UK, developing first-in-class immune-enhancers against chronic & difficult-to-treat bacterial infections.

Our platform technology facilitates the total elimination of those troublesome infections that normally remain in the body largely "unseen" both by the immune system and out-of-reach from commonly used antibiotic drugs. TaBrix's lead preclinical candidate TBX-4881 is for the treatment of mycobacterial lung infections, including tuberculosis and M.avium.

Visit Objective:
We are currently seeking potential partners for:

- Manufacturing expertise in chemistry & pharmaceuticals for production/ custom synthesis & scale-up of small molecule therapeutics.
- R&D collaboration with experts in preclinical development of anti-infectives, particularly those with access to clinical isolates and experience in cell assays.
- Biomedical champions & clinical experts, in preparation for future clinical trials.
- Investment at the seed-stage, for financing preclinical stages.

Vitec Microgenix Limited	Vitec Microgenix

Business Overview and Specialist Area:
VML reduces Hospital Acquired Infections (HAI's) by eliminating environmental microbes. We have developed a platform technology which eliminates surface and airborne pathogens in a safe, effective and sustainable way.

Visit Objective:

- Understand the market
- Seek local partners
- Identify commercialisation opportunities.