

# Infection Innovation Consortium

Saving lives by Supporting Innovation



# iiCON: Saving Lives by Supporting Innovation

A leading global centre for infectious disease R&D, iiCON brings together industry, academia, and the NHS in a collaborative infection R&D programme.

Our purpose is to save lives globally by accelerating the discovery and development of innovative new treatments, diagnostics, and preventative products for infectious diseases.

Based within the North West of England, iiCON is part of a dynamic eco-system, with world-leading capability across drug discovery, diagnostics and clinical trials, all the way through to biopharmaceutical vaccine manufacturing capability.

Our co-ordinated initiative addresses key roadblocks in global R&D pipelines, within one of the largest biopharmaceutical manufacturing clusters in Europe.

Led by Liverpool School of Tropical Medicine, our partners are: Liverpool University Hospitals NHS Foundation Trust, LifeArc, Unilever UK, the University of Liverpool, Evotec, and Infex Therapeutics.

## Our partners



## Our network

iiCON has access to a diverse and expansive global network, ranging from environmental management consultants in Africa and India to multi-national pharmaceutical and agrochemical companies, making the consortium well positioned for global impact in infection.

We are currently connected to over **820** companies across the globe and are linked with over **225** SMEs in the North West.

Overall, iiCON has been successful in establishing and strengthening links with all organisation types playing an active role in infection R&D.

### Size of companies engaged with:



**26**

MICRO



**469**

SME



**326**

MACRO



# Impact: Enabling Innovation

iiCON is driving innovation – supporting discovery and commercial development at all stages of the innovation journey and pivoting platforms to respond to public health needs nationally and globally.

 **559**

**559** jobs have been created through iiCON since 2020

 **36**

Fast-tracked **36** new products to patients and consumers in our first three years of operation

 **17**

Supported over **17** SME innovations – overcoming discovery and development barriers

 **154**

Over **154** academic/industry collaborations have been enabled with partners including Unilever, Sanofi, Merck, Pfizer, CN Bio, Mologic, Newcells Biotech, and Sentinel

\*Figures reflect activity in Q4 2023

## iiCON's research supports industry innovation protecting communities & saving lives

An iiCON trial that helped to shape the World Health Organisation's recommendations for malaria prevention has enabled the distribution of a game-changing new mosquito net to millions of people across Africa.



This intervention has saved the lives of hundreds of children under five years old, who would otherwise have died of malaria. iiCON is now working closely with global health company Vestergaard to enhance the design of its mosquito nets to make them even more effective. This is helping fast-track a new generation of mosquito nets to communities – saving even more lives.

## Supporting the COVID-19 effort across Africa

High-quality, cost-effective antigen tests are critical to identify infection and stop the spread of the virus. A rapid COVID-19 antigen test, validated by researchers at LSTM through iiCON is being used to deliver large-scale testing across Africa as part of a major FIND and UNITAID programme. The test provides a high-quality, affordable solution to protect some of the world's most vulnerable communities.

The consortium is working with the Malawian Government and the Wellcome Trust to provide high-quality data on the COVID variants that are spreading, shaping the country's COVID-19 policy response

Over three years iiCON has fast-tracked the development of **36** new products. Over **4 billion** units of these products have now reached patients and communities – saving lives globally

**iiCON's impact is testament to the combined capability of our consortium partners in supporting innovation. Through our partners, we have a fantastic array of expertise and world-class research facilities available to support companies working on pioneering products and treatments for infectious diseases.**

**It's incredibly encouraging to see the number of products that have already made it through to market – saving millions of lives and ensuring that industry innovation is cutting through and having an impact on the patients and communities most in need.**

Prof Janet Hemingway, iiCON Director



# Innovation Journey: Discovery to Adoption

iiCON provides companies of all sizes with access to world-leading expertise, facilities and resources. Our eleven open-access specialist research platforms are co-developed and operated by our industrial, academic and clinical partners. We remove barriers to market by providing support at every stage of the Innovation Journey from Discovery to Adoption.

## One: Discovery & Conceptualisation ▾

Our early-stage-discovery platforms offer sophisticated expertise & facilities to support world-leading innovation. This knowledge & capability enables the discovery of innovative diagnostics & antimicrobials, bringing forward transformative novel candidates to combat global challenges including multi-drug resistance.



## Two: Translation ▾

Our *Translation* platforms support the development of novel antimicrobials & diagnostics. Specialist support is available to progress novel therapeutics from hits to leads. Highly innovative technologies including nanotherapeutics, innovative humanised tissue & microfluidic models, including organoid systems & Organ-on-a-Chip is accessible to industry to fast-track drug discovery. New drug development pathways are being developed to support the industry effort to combat multi-drug-resistant superbugs.



## Three: Evaluation and Approval ▾

World-class facilities & expertise support product *evaluation & validation*. Our expertise in Human Challenge trials offers industry co-located research & clinical facilities, with impactful first-in-human trials run by world-leading researchers available for all antimicrobial applications, significantly de-risking the transition into humans. Our platforms also offer validation & verification of non-invasive diagnostics & advanced surface science capability from leading research institutions.



## Four: Adoption ▾

Our *Adoption* platforms shape & inform global health policy and support market access, helping to protect communities from diseases including Malaria. Our experts also work closely with industry & policy makers to position health interventions & products to enable maximum public health benefit.

# Our Platforms: Specialist Open-Access Support



## Platform 1: Natural Product Library

Designed to drive innovation and support companies of all sizes on the discovery journey, this platform offers industry early access to one of the world's most diverse, and completely novel Natural Product Libraries, developed by the Liverpool School of Tropical Medicine (LSTM).

## Platform 2: Hits to Leads

This platform led by Infex Therapeutics supports SMEs to progress candidates from Hits to Leads, accelerating the development of new, innovative antibiotics that can combat deadly resistant infections, through the early-stage drug discovery pathway.



## Platform 3: Organoid Models

This highly innovative platform led by LSTM offers industry access to pioneering technologies which support the development of game-changing novel therapeutics. A range of sophisticated technologies including innovative humanised tissue & microfluidic models, are available to fast-track and de-risk advanced drug discovery and development.

## Platform 4: Advanced AMR Modelling

This molecular pharmacology and pharmacokinetics-pharmacodynamics (PK-PD) platform led by the University of Liverpool provides new drug development models and approaches to help industry overcome barriers posed by antimicrobial resistance. It supports the discovery and development of novel therapeutics to tackle the world's most critical, multi-drug-resistant infections.



## Platform 5: Human Challenge

Single-point-access to an advanced clinical trials package that offers first-into-human testing for antimicrobial products and treatments – from hygiene and sanitation products, diagnostics, AI wearables and devices, to new therapeutics, and vaccines. This all-in-one solution leverages LSTM and LUHTF's MHRA Phase 1 Accredited Clinical Research Unit (CRU) expertise and covers each stage of the trial journey from study protocol design to downstream analysis.

## Platform 6: Diagnostic

Combining the expertise of three regional centres of excellence, this platform provides industry access to LSTM's broad-based global expertise in diagnostics, break-through sensor technologies developed by Liverpool John Moore's University's BEST Research Institute, alongside world-leading surface analysis capability through the University of Liverpool's Surface Science Research Centre.

## Platform 7: Randomised Control Trials

Led by an expert team at LSTM, this platform provides robust data to inform global health policy and supports and enables market access, helping to protect communities from diseases including malaria. This work is already helping to protect communities and save lives by advancing innovative interventions.

## Platform 8: Mapping & Modelling

This platform supports innovation and product development, providing the expert insight required to optimally position health interventions. Industry partners can access LSTM's world-leading expertise in mapping and modelling of the transmission and dissemination of pathogens at a micro and macro level.

## Platform 9: Nanotherapeutics

Led by The Nanotherapeutics Hub located at the University of Liverpool, this platform provides industry partners access to the Hub's expertise and its network of UK partner organisations to support the development of innovative new antimicrobials, and vaccines, leveraging nanotechnology.

## Platform 10: LifeArc Humanised Antibodies

Led by the self-funded medical research charity, LifeArc, this platform provides streamlined access to LifeArc's leading capabilities in humanising antibodies for therapeutic applications, helping to solve key infectious disease challenges.

## Platform 11: Long-Acting Therapeutics

This platform provides access to the expertise within The Centre of Excellence in Long-acting Therapeutics (CELT) at the University of Liverpool. This cross-faculty research initiative combines world-leading expertise in pharmacology and materials chemistry. CELT works with international partners to disseminate research findings in long-acting medicine and change the global drug administration landscape.

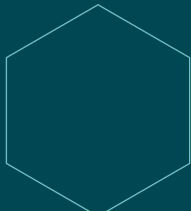
## iiCON

### **A Global Centre of Infection R&D Saving Lives by Supporting Innovation**

iiCON is a world-leading collaborative infectious disease R&D programme established in 2020. It brings together industry, academia, and the NHS in a concerted effort with a clear aim: to combat the growing global threat posed by infectious diseases and save lives through collaborative innovation.

The consortium is revolutionising the discovery, development, and rapid deployment of new antimicrobial products, diagnostics, and therapeutics – bringing these to patients and communities more quickly, safely, and affordably.

**To find out more about more about iiCON or explore opportunities to collaborate, please contact us at:  
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#### **iiCON – Infection Innovation Consortium**

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 Infection Innovation Consortium

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