# Eurostars Funds IMPACT2 To Establish A Break-Through Translational AMR Platform

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- **BioSystems Technology, BioVersys and Voxcan join forces to establish IMPACT2 - an Innovative Multifaceted Platform for Antimicrobial Commercialisation Transformation Powered by Eurostars - a joint programme co-funded by EUREKA member countries and the European Union Horizon 2020 Framework Programme.**

BioSystems Technology, BioVersys and Voxcan announce funding for a total of about € 840'000, by Eurostars over a 3-year period for IMPACT2, a break-through innovative translational AMR platform that will expedite the development of novel new medicines in the fight against antimicrobial resistance.

New treatments are urgently needed to combat high mortality rates due to the untreatable infections caused by multidrug-resistant (MDR) and extensively drug-resistant (XDR) Gram-negative pathogens such as *K. pneumoniae*, *A. baumannii*, *P. aeruginosa*, *E. coli* and others. Novel intervention strategies are vital to respond to the AMR crisis however, current drug discovery tools are inadequate to properly address resistant pathogen strains.

IMPACT2 will offer a solution to transform antimicrobial drug discovery through a seamless platform for effective in vitro and real-time in vivo drug candidate screening and target validation. It will reduce drug candidate failures by streamlining pre-clinical evaluation directly in clinically relevant strains prior to testing candidates in expensive and time-consuming mammalian infection models.

IMPACT2 is composed of three component platforms which can be used to develop targeted therapies against Gram-negative infections:

- BioVersys' in vitro platform will provide clinically relevant characterized bioluminescent strains of Gram-negative pathogens for use in the development of in vivo real-time models. Marker-less gene knock-out and knock-in mutants of MDR clinical isolates for target confirmation and validation in the translational platform will be available.

- BioSystems Technology's TruLarv™ platform will establish in vivo larvae models using the bioluminescent strains to track intracellular pathogens and obtain an in vivo proof of concept, enabling this system to be used for high-throughput antimicrobial and toxicity in vivo compound screening.

- Voxcan's state of the art imaging technologies, BSL2 and BSL3 environments will allow real-time in vivo proof of concept and validation in predictive animal models of disease.

The entire platform will offer clients validation of novel AMR targets, rapid in vivo compound screening and real-time in vivo data such as optical localisation of infection sites, spread and quantitation of bacterial loads. AMR projects will also benefit from information on pharmacodynamics of new compounds through visualisation of the kinetics of bacterial clearance at multiple time points using clinically relevant strains.

This novel multifaceted translational platform will aid traditional and non-traditional (e.g. anti-virulence) antibiotic R&D companies to expedite their AMR projects more ethically from early research through to clinical development, reducing the numbers of animals used and lowering development costs.

**BioSystems Technology** is a privately owned UK based Biotechnology company pioneering the development and adoption of an innovative, non-mammalian preclinical technology platform for drug analysis, screening and optimisation. There are significant ethical, financial and legislative drivers compelling businesses to seek alternatives to existing mammalian testing systems. BioSystems Technology is a world leader in the production of standardised Galleria mellonella insect larvae ("TruLarv") for research. TruLarv are a non-mammalian technology that can be used to generate pre-clinical efficacy and toxicity data for chemicals, compounds and drugs prior to human trials. They are also used more broadly for microbiological research into fungal and bacterial pathogens. BioSystems Technology is located in The University of Exeter, a Russell Group University in the South-west of England. Please visit www.biosystemstechnology.com

**BioVersys AG** is a privately owned Swiss pharmaceutical company focusing on research and development of small molecules acting on novel bacterial targets with applications in Anti-Microbial Resistance (AMR) and targeted microbiome modulation. With the company's award-winning TRIC technology we can overcome resistance mechanisms, block virulence production and directly affect the pathogenesis of harmful bacteria, towards the identification of new treatment options in the antimicrobial and microbiome fields. By this means BioVersys addresses the high unmet medical need for new treatments against life threatening resistant bacterial infections and bacteria-exacerbated chronic inflammatory microbiome disorders. Our most advanced R&D programs are in preclinical development for nosocomial infections (hospital infections), and Tuberculosis in collaboration with GlaxoSmithKline (GSK) and a consortium of the University of Lille. In 2019 BioVersys plans to launch our first Phase I clinical trials and transition into a clinical stage company. BioVersys is located on the Technologiepark in the thriving biotech hub of Basel. Please visit www.bioversys.com.

**Voxcan** is a privately owned French Contract Research Organization offering to international pharmaceutical and biotechnological companies efficacy and biodistribution preclinical studies in a Bio-Security Level 1 to 3 environment. The company is acting in the three main fields of oncology (including immunotherapy), osteo-articular pathologies and infectious diseases (bacteria and virus) and its specificity compared to its competitors is the intensive use of medical imaging to generate relevant biological readouts. In the domain of infectious diseases, several models have been developed, characterized and routinely used ranging from a very simple subcutaneous infection model with or without implant, to a CVC *S. aureus* infectious model for biofilm studies and passing through an OAI infection model in the mouse or a H1N1 2009pdm pulmonary infection model in mouse and ferret. Thanks to the use of high technology approaches, Voxcan is able to support and accelerate its client drug developments at the preclinical phase in an ethical way. Obtaining in vivo information and analysis on relevant and well characterized animal models, from mouse to rabbit models, provide the customer with an optimal quantification of the biological parameters and a considerable financial profit, reducing the number of animals and time needed. Voxcan is located in the vicinity of Lyon, France. Please visit www.voxcan.fr

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