Fake drugs, vaccines a thing of the past with PrOXisense breakthrough technology

Counterfeit medicine, which can prove both costly and deadly, target of new collaboration with Oxford University.

Oxford, UK – 30 November 2020

PrOXisense, a sensor technology company borne from Oxford University research, has developed a new testing platform capable of identifying counterfeit drugs and vaccines.

Counterfeit drugs are a global issue. Some may contain the active ingredient but at the incorrect dosage, while other versions may not contain the advertised drug at all. In both cases, recipients of the counterfeit drug may be harmed by receiving either too little of a drug or a placebo. In some instances, the drug may even be contaminated with a dangerous ingredient. The impact of this activity, which is global but particularly prevalent in Asia, may prove fatal for patients. In addition, counterfeit drugs cause enormous economic damage, with the European Union Intellectual Property Office issued a report last year stating that EU industry loses €16.5bn in sales to counterfeit drugs.

The problem is expected to be further compounded by the forthcoming COVID-19 vaccines, with producers of counterfeit vaccines likely to attempt to profit from the ongoing pandemic.

PrOXisense, which is working with Oxford University which is validating its test results, has demonstrated successful early trials of a rapid and accurate test for two drugs: Quinine Sulphate, which is used to prevent and treat malaria, and Amoxicillin, an antibiotic used to treat bacterial infections. PrOXisense trials are supported by the Health Systems Research Institute in Thailand ("HSRI") which is also independently validating test data.

PrOXisense has a thermal product sensor which is both compact and robust, consisting of a platinum thin film or pulse gauge. Sensors are coupled to signal processing electronics and feed analysis to a laptop instantly showing the anomalies in counterfeit drugs. To prove the analysis works, a variety of real and fake drugs have been tested with access to samples controlled by the UK's Medicines and Healthcare Products Regulatory Agency.

The company is planning to expand its portfolio of testable drugs rapidly to include a wide variety of therapeutics used to treat a multitude of conditions and will be able to provide testing support for vaccine authenticity.

Crucially, existing products have a 5% variance which may catch some counterfeit drugs, but is insufficiently precise for vaccines. PrOXisense will be able to offer a more precise product which will be able to identify illegitimate vaccines.

Paul Vickery, Chairman at PrOXisense, said: "This new sensor is an important development for our business. Counterfeit drugs are a huge international problem. Covid-19 has created an urgency to create widespread testing facilities as the world faces shortages in key drugs and vaccines. This breakthrough could not have happened at a more important time as our test could be used for a wide variety of drugs, including vaccines."

Kam Chana, CTO of PrOXisense and Associate Professor at Oxford University commented: "I am very grateful to the Health Systems Research Institute in Thailand for funding this breakthrough

development. The early results are incredibly encouraging, and we are now seeking to roll out prototype test kits to key testing institutions in different parts of the world."

<div align="center">

ENDS

</div>

Notes to Editors

The Health Systems Research Institute is a Thai government agency responsible for promoting research that assists in the formulation of a national health policy. It also acts as the coordinator for mobilizing health system reforms in Thailand.

The Medicines and Healthcare Products Regulatory Agency regulates medicines, medical devices and blood components for transfusion in the UK.

PrOXisense is an innovative technology company formed as a spin out from the University of Oxford.

Contact: paul.vickery@proxisense.com

Emphasis on Vaccines. Current tech can detect 5% variance, need a stronger tech for vaccines.