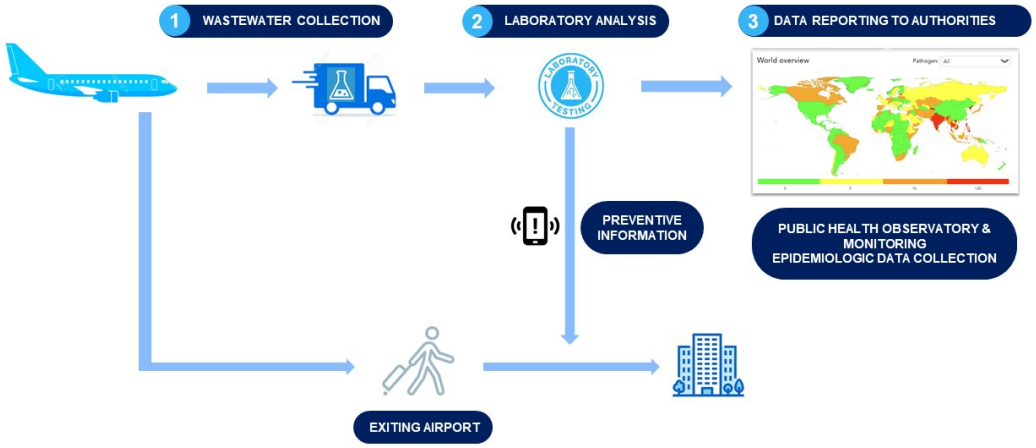
SICPA AND THE BATAILLON DE MARINS-POMPIERS DE MARSEILLE ARE TESTING AN INNOVATIVE SOLUTION FOR DETECTING PATHOGENS IN AIRCRAFT WASTEWATER

Authorities can rely on a robust decision-making tool to strengthen their fight against the COVID-19 pandemic and future health risks.

LAUSANNE, Switzerland, May 6, 2022 -- The Swiss company SICPA, a world leader in identification, traceability and authentication technologies, and the bataillon de marins-pompiers de Marseille (BMPM – Marseille marine fire brigade), a French innovative biodefense unit, have developed a state-of-the-art technological solution, based on the analysis of aircraft wastewater to help authorities manage the risk of importing pathogens into their territory. The epidemiological data collected gives them a precise view of epidemic dynamics.



Process of the solution for detecting pathogens in aircraft wastewater.

After very conclusive tests conducted at Marseille-Provence airport (France) on the detection of SARS-CoV-2 and its variants for several months, the effectiveness of the solution has also been confirmed on a large scale since the beginning of April in the Arabian Gulf region, with more than 150 aircrafts tested to date on arrival by SICPA, under the supervision of the competent health authorities. It allows the detection of pathogens among a group of passengers entering a given territory in near real time, without the need to know their identity.

An effective and non-invasive monitoring system to anticipate and manage health risks

Governments and health authorities now have a particularly effective tool to prevent and anticipate such health risks. This system brings a welcome reliability to virus surveillance, in a context where the WHO notes a recent reduction in COVID-19 testing, sometimes in favour of home testing, the results of which are not communicated to the health authorities[1].

Testing aircraft wastewater has the advantage of being collective, non-invasive and confidential. Itcan alsodetect various pathogens at early stages in people who would not have tested positive in the individual test required for boarding.

"SICPA's purpose is to enable trust. We offer governments secure traceability and health risk management solutions to optimise their response systems," says Arnaud Bernaert, Director of the Health Security Solutions division at SICPA. "The state-of-the-art solution developed in partnership with the BMPM is one of the data acquisition modules that allow governments to build their own epidemiological observatory to monitor emerging threats and the development of epidemics and pandemics, and to anticipate and manage health risks without unnecessarily disrupting the daily lives of citizens, a challenge particularly highlighted during the COVID-19 pandemic. Rapidly deployable on a large scale, it is now available to any interested state."

"The bataillon de marins-pompiers de Marseille has been at the forefront of the fight against COVID-19 since 2020 with the analysis of wastewater," adds its commander, Vice-Admiral Patrick Augier. "It is an effective innovative method that has demonstrated its relevance on numerous occasions and in different contexts. It is an indispensable tool in the fight against the pandemic in Marseille and in several French cities. Today we are proud that it can be used to protect other countries and other populations."

Based on its experience of more than 40,000 samples taken from wastewater in urban communities in France since the beginning of the COVID-19 pandemic, the BMPM has developed a collection protocol for all types of aircraft, commercial or private, as soon as they arrive at airports. Analyses carried out on site by specially trained teams make it possible to very quickly detect the presence of a pathogen on board, among the passengers and crew of a flight. In less than 2 hours, SARS-CoV-2 mutations are identified and quantified, allowing the nature of the threat to be characterised. The solution can therefore directly identify variants such as *Delta* and *Omicron*, as well as other respiratory pathogens (notably Influenza). Moreover, it is constantly adapted to the evolution of the threat, thanks to a collaboration with the EDEM Solutions Scientific Interest Group, which has an industrial capacity to adapt detection probes to new variants in a few weeks, as soon as their genomic sequence is known.

Monitoring the circulation of pathogens to better protect populations

The results of the analyses are immediately returned to the authorities in the form of analytical dashboards developed by SICPA and correlated with statistical and territorial data, enabling them to follow the evolution of an epidemic and the circulation of new pathogens precisely, and thus decide very quickly on the measures to put in place to protect their population and their economy.

This robust solution, developed jointly by SICPA and the BMPM, and marketed by SICPA, now makes it possible to respond in a concrete way to the recommendation issued by the *European Centre for Disease Prevention and Control* last November, encouraging countries to set up health monitoring and decision support systems. Its continued existence will enable the early detection of an ever-wider range of pathogens in the future.

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About SICPA

Market leader in security inks and leading provider of secured authentication, identification, traceability and supply chain solutions, SICPA is a long-trusted partner to governments, central banks, high security printers and the industry. Every day, governments, companies and millions of citizens rely on its expertise, which combines material-based covert features and digital technologies, to protect the integrity and value of their currency, personal identity, value documents, e-government services, as well as products and brands. True to its purpose of Enabling Trust through constant innovation, SICPA aims to further an Economy of Trust worldwide, where transactions, interactions and products across the physical and digital worlds are based on protected, unforgeable and verifiable data.

Founded in Lausanne in 1927, headquartered in Switzerland and operating on five continents, SICPA employs about 3000 people.

www.sicpa.com

About the BMPM

The BMPM is the largest unit of the French Navy, with more than 2,500 military and civilian personnel, men and women, fighting every day against almost all the risks identified by the Sécurité Civile in Marseille, the second largest city in France. The BMPM also ensures the security of the Marseille-Provence airport, Airbus Helicopters, as well as the ships docked and in harbour in the East and West basins of the large maritime port of Marseille (GPMM), the first port in France.

COMETE (Covid-19 Marseille Environmental Testing and Expertise) is a group of experts from the Marseille marine fire brigade, working in the NRBCE field, which took shape at the start of the health crisis in 2020. They responded to a need for innovation at the heart of this pandemic by developing a technique for collecting and analysing wastewater, which is now an essential tool in the fight against the epidemic in Marseille. This network of experts has trained many people in the use of this technique throughout France, and has intervened on numerous sites (airports, ports, care homes, schools, hospitals, private places). In two years, more than 98,656 screening tests were carried out, including more than 60,500 at the Marseille-Provence airport. In total, more than 44,193 samples (wastewater and surface water) have been taken since the beginning of the pandemic.

www.marinspompiersdemarseille.com

[1] COVID-19, Ukraine & Other Global Health Issues Virtual Press conference transcript - 26 April 2022 (who.int)