



Shape the future of healthcare
With patient-focused sensor technology

SENSIRION

Enhanced sensing for digital health

Digital technology already plays a critical role in modern healthcare. As society faces new healthcare challenges – including an increase in chronic diseases and an aging population – the dependence of public health on digital technology will only increase. The use of digital drug delivery, patient monitoring and personal health devices enables the reliable monitoring of therapies, evidence-based decisions as well as understanding and improving health and fitness.

Subcutaneous drug delivery

Large-volume injectors free patients from frequent hospital visits by enabling convenient and discreet out-of-hospital drug delivery. In remote settings like these, ensuring strict adherence to drug delivery and therapy regimens is crucial. Our miniaturized liquid flow sensors serve a dual purpose: not only do they facilitate precise control of drug delivery by providing real-time feedback to the pump, but they also increase patient safety by continuously monitoring drug delivery and identifying potential errors such as air bubbles, empty lines or occlusions.

In contrast to pump actuation, a flow sensor provides a direct flow measurement, enabling real-time tracking of administered doses and rates. Integration of drug temperature and media detection are additional ways to ensure compliance.



Smart inhalers

More than half of patients using inhalers today suffer from poor disease control and are far from achieving optimal therapy. An air flow sensor integrated into an inhaler provides valuable insights and therapy benefits. Our miniaturized flow sensor allows solutions ranging from simple triggering of inhalation flows to the precise characterization of inhalation flow profiles that provide information about inhaler use, therapy and potentially even disease progression. A key benefit lies in the non-obtrusive monitoring via the clip-on, which collects data without altering the patient's experience or requiring a modification to the inhaler. The inhalation flow profile and actuation timing information form the basis for identifying incorrect use and improving patient inhalation.

Overall, collecting accurate inhalation profile data supports healthcare professionals as well as the patient's adherence and therapy.

Breath analysis

The analysis of human breath has the potential to provide insight into the body and an individual's health status. This includes valuable information about the patient's metabolism that can be used to manage conditions like diabetes, tailor diets or optimize the performance of athletes. It also offers the potential for the early detection of diseases. While breath sampling stands out as a rapid and convenient method thanks to its non-invasive nature, measurements in breath are highly challenging. Our miniaturized sensors enable precise, low-power and robust measurement of CO₂ concentration, among other gases, in this demanding environment.

