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# SniffPhone device to detect cancer from breath

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**SniffPhone, currently in its prototype phase, enables early diagnosis of gastric cancer from a personâ??s exhaled breath.**



SniffPhone is a small sensor device developed for cancer screening that can be attached to a smartphone. In practice, the user holds the device in front of his or her mouth and exhales onto the sensor to give breath sample. The device measures the contained Volatile Organic Compounds (VOCs) using highly sensitive nanotechnology-based chemical sensors. The measurements are sent via Bluetooth using a smartphone to a dedicated cloud platform, where they are analysed by the appropriate medical personnel.

The new cancer screening method has many advantages over traditional methods: the device is comfortable and painless to use. In addition, it provides a simple, fast and cost-effective alternative for screening gastric cancers. In the project, SniffPhone prototypes have been developed and validated by means of, for example, clinical studies. The next step in the project is finding financiers for this kind of novel cancer screening method. Commercialisation of the device is planned to take place through a spin-off company.

VTT's role as a visionary research, development and innovation partner in the project was the implementation of the platform for transferring data from the smartphone to a cloud-based storage space. VTT has also been building analysis tools and methods for recognising high-risk patients. In addition, VTT developed a mobile application that guides the user in giving a breath sample and provides the user with a preliminary analysis of the sample. Furthermore, a physician's analysis tool has been developed to display the analysis results of breath samples. VTT was also in charge of the implementation of responsible research and innovation in the project by such methods as engaging final users and stakeholders in the development work through interviews and workshops and integrating responsible design practices into project operations.

The SniffPhone project is part of the EU's Horizon 2020 Funding Programme. The project consortium consists of nine partners: the coordinator *Technion - Israel* Institute of Technology (Israel), NanoVation (Israel), Cellix Ltd (Ireland), microfluidic ChipShop (Germany), University of Latvia (Latvia), University of Innsbruck (Austria), Siemens (Germany), JLM Innovation GmbH (Germany) and VTT.

On 21 November 2018, the SniffPhone project was awarded the 2018 Innovation Award by the European Commission for Most Innovative Project.