

ULIMPIA enables smart body-patches for ultra-sound monitoring at home

A project within the EUREKA PENTA programme

Paris, 23 October 2018 – ULIMPIA, a project within the EUREKA PENTA cluster managed by AENEAS Industry Association, is breaking new ground in health care by enabling ultra-sound monitoring at home through smart body patches.

The ULIMPIA technology goes beyond existing body patches that measure only parameters on the surface of the skin - temperature and humidity, for instance. ULIMPIA's new MEMS (Microelectromechanical systems) -based technology can look inside the body and continuously monitor and diagnose processes going on under the skin, or even deep within the body, such as blood pressure or bladder function. This will allow many more patients to stay at home instead of requiring hospital-based monitoring, while health services will benefit from reduced costs. In addition, the project's open platform approach will allow application developers to enter this entirely new consumer healthcare market by creating their own applications based on the ULIMPIA technology.

With an ageing population and rising rates of chronic diseases such as cardiac vascular diseases (CVD), obesity, diabetes and chronic obstructive pulmonary disease (COPD), Europe is facing significant increases in healthcare costs – from USD 383 billion in 2016 to an expected USD 425 billion in 2025¹. ULIMPIA aims to provide point-of-care diagnostic solutions that will both reduce the cost of continuous (remote) on-body diagnostics and empower patients to better manage their health at home. The patches will be wirelessly connected to a peripheral device such as a mobile phone, which analyses and displays the data to give real-time feedback to the user. Applications could include blood pressure measurement, bladder monitoring, blood vessel inspection of diabetes patients, early breast cancer detection, needle guidance and wound monitoring.

The ULIMPIA project represents a continuation and consolidation of Europe's strength in ultra-sound diagnostics. A large European consortium consisting of 17 partners in six countries will develop the necessary technological building blocks including: a programmable universal ultra-sound engine, conformable patch technologies (that adapt to the form of the human body) and functional adhesive and bio-compatible materials. By bringing ultra-sound to the consumer market, ULIMPIA is expected to drive high production volumes and fuel further innovation in MEMS ultra-sound technologies to support Europe's existing leading role in professional ultra-sound diagnostics.

¹ Vision 2025 – The future of healthcare, Frost &Sullivan, 2016

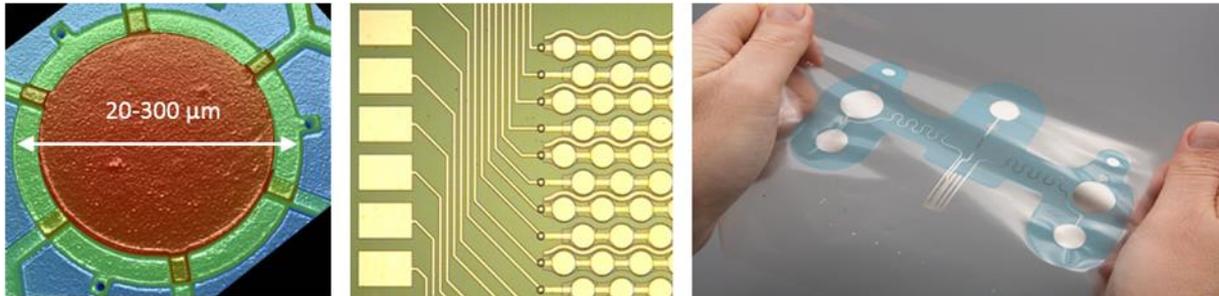


Figure. Left CMUT MEMS ultra-sound transducers are made using micro-fabrication. They can be fabricated on top of the ASICs that drive them (middle). Combined with innovations in conformable substrate technology they enable on-body personal ultra-sound diagnostics (photo: Philips, Holst).

About the PENTA programme (managed by the AENEAS Industrial Association)

PENTA is a EUREKA cluster whose purpose is to catalyse research, development and innovation in areas of micro and nanoelectronics enabled systems and applications - where there is shared national and industrial interest. Based on the Electronic Components & Systems (ECS) Strategic Research Agenda (SRA) key areas and essential capabilities, PENTA programme contributes to the development of electronic solutions with the opportunity for rapid competitive exploitation and a strong impact on European societal challenges. The PENTA project team is supporting SMEs, large corporations, research organisations and universities by facilitating access to funding, fostering collaborative work and creating consortia.

PENTA is managed by AENEAS, the European industry association

About PENTA: <http://www.penta-eureka.eu>

About AENEAS: <https://aeneas-office.org>

About ULIMPIA



Ulimpia is a RD&I project consortium involving 17 partners in six countries. The project partners are: Philips Electronics Netherlands BV (Project leader), Philips Electronics Netherlands BV, TNO, Novioscan, TU Delft, IMEC, Mepy, Fraunhofer EMFT, Karl Otto Braun (KOB) GmbH, WarmX, Henkel, Institute for textile and fiber research denkendorf, Institute for textile and fiber research denkendorf, NXP Germany, GED Gesellschaft für Elektronik und Design GmbH, VTT, Picosun, Linxens, Eurecat. National funding support is provided by Finland, Germany, the Netherlands and Spain.

About ULIMPIA: <http://ulimpia-project.eu/>