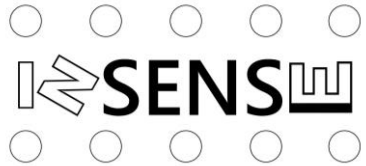
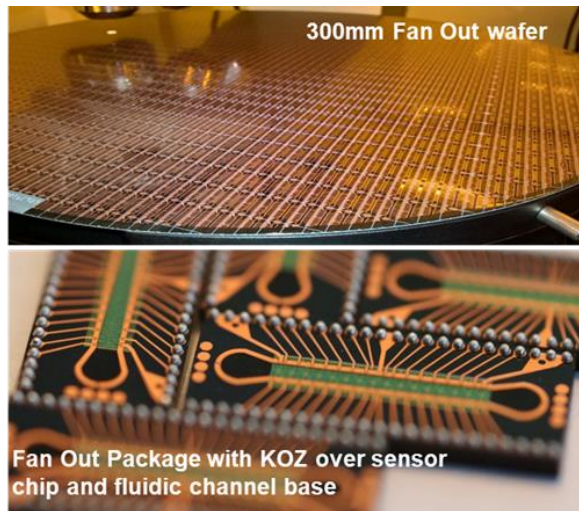


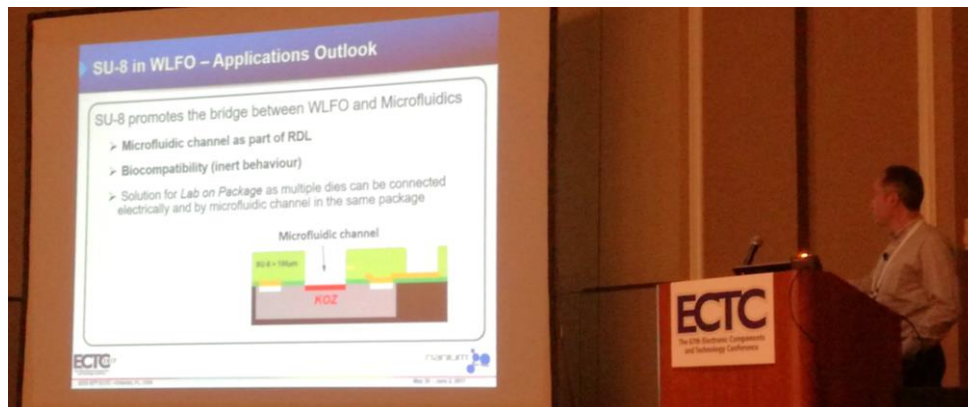
INSENSE | New Generation of Wafer Level Packaging and Integration Technology for Sensors

Project Spec Sheet (EN)

Cofinanciado por:    UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional	
Project nº 17866	
INSENSE New Generation of Wafer Level Packaging and Integration Technology for Sensors	
Project Overview Wafer Level Fan Out (WLFO) Packaging has recently seen a tremendous growth in a broad span of application in telecommunications, automotive and other markets. Its versatility allows its continuous development to accommodate more and more types of components. To expand the technology and include new family of sensors such as MEMS/NEMS, Bio-chips with Microfluidics, magneto-resistive devices and micro-batteries, the process limits and materials in WLFO processing must be challenged. The project focus on several targets: process temperature <160°C; ability to open sensing areas to the environment; ability to merge microfluidic into RDL; biocompatibility; and strategies to lower the internal stress over MEMS. The challenges of lowering the process temperature consist of finding legitimate alternative materials (dielectrics, solder ball alloys, manufacturing support materials) and processes while maintaining all the critical characteristics. The selection of SU-8 as dielectric overcomes some of the challenges as it cures as low as 150°C, provides a wide span of thickness necessary for the creation of “Keep-Out-Zone” and thick RDL channels, while providing the required biocompatibility for the inclusion of BIO-MEMS/ microfluidics. The development of ultra-low temperature WLFO process using SU-8 is a breakthrough achievement for ATEP, solving one of the largest barriers between this technology and the sensors domain, enabling innovative solutions and new WLFO application opportunities.	

Photos, videos and other dissemination materials





Supported by the "Sistema de Incentivos"

Investigação e Desenvolvimento Tecnológico (SI I&DT)

Partners

Atep - Amkor Technology Portugal, S.A. (Leader)

INL - International Iberian Nanotechnology Laboratory

Total eligible cost

1.055.098,20 €

Funding:

682.561,42 € (ERDF)

Intervention Region | North

Project Code | POCI-01-0247-FEDER-017866

Approval date | 02-05-2017

Starting date | 01.10.2016

Conclusion date | 30.09.2018