



## MAGLINE | Development and Industrial Validation of TMR Sensors Fabrication

### Project Spec Sheet (EN)

Cofinanciado por:



UNIÃO EUROPEIA  
Fundo Europeu  
de Desenvolvimento Regional

Project nº

**17863**

### MAGLINE | Development and Industrial Validation of TMR Sensors Fabrication

#### Project Overview

The increasing application of magneto resistive sensors as essential components of a large quantity of systems, markets and heterogeneous applications, presents an opportunity to optimize and demonstrate the feasibility of a mass production process for TMR sensors. The most recent generation of sensors (TMR) presents big advantages when compared with previous generations (Hall e GMR), and there is a growing and sustainable market to apply those sensors. However, the lack of industrial production capacity prevents its adoption in commercial applications on a large scale. Although it is possible to acquire them commercially, those available in the market are generic sensors not optimized for any specific application. There is a clear opportunity to capture and supply the market with a solution for mass production of TMR sensors optimized and customized for different applications.

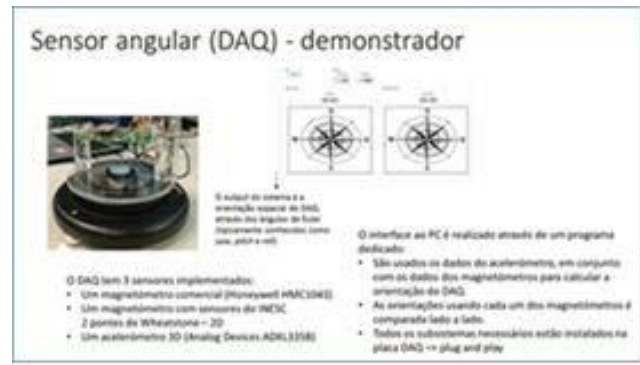
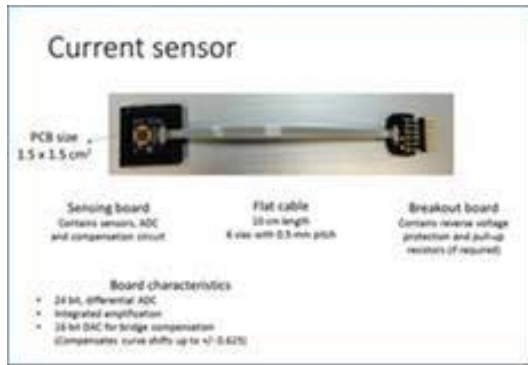
To cover that need, the MAGLINE project intends to optimize and demonstrate the feasibility of adapting a process tested in the laboratory to industrial production, using existing systems for advanced package processing and not previously tested to produce TMR sensors.

In this context, the Consortium proposes establishing a “pilot” line to be tested in a real environment, by fabricating sensors at the wafer level with properties tailored to two applications for the automotive market (angular sensor and digital sensor) and industrial electronics (current sensor). In addition, several types of demonstrators will be built and tested by the consortium partners to validate the process feasibility.

That feasibility shall be demonstrated at two levels: Wafer – the sensors will be tested in small quantities with the objective of extracting the most relevant characteristics; System – the sensors will be tested in applications that normally utilize other types of magneto resistive sensors (Hall and GMR).

The MAGLINE is proposed by three entities: ATEP - Amkor Technology Portugal, S.A, INL - Laboratório Ibérico Internacional de Nanotecnologia and INESC-MN. These entities have the necessary multi-disciplinary and complementary competences required to execute this project.

## Photos, Videos and Other Materials



## Project Supported by the “Sistema de Incentivos” (incentive scheme)

Investigação e Desenvolvimento Tecnológico, Projetos Demonstradores em Co-Promoção

## Partners

ATEP – Amkor Technology Portugal, S.A. (Leader)

INL – Laboratório Ibérico Internacional de Nanotecnologia

INESC-MN – Microsystems and Nanotechnologies

### Total Eligible Cost:

**420,926.67€**

### Funding:

**172,477.45€**

**Intervention Region | North**

**Project Code | POCI-01-0247-FEDER-017865**

**Approval date | 04.01.2017**

**Starting date | 09.01.2017**

**Conclusion date | 31.08.2018**