

# **DETECTION, TRACKING AND CLASSIFICATION OF VEHICLES AND AIRCRAFT BASED ON MAGNETIC SENSING TECHNOLOGY**

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*Abstract*—Existing ground movement surveillance technologies at airports are subjected to limitation due to shadowing effects or multiple reflections. Therefore, there is a strong demand for a new sensing technology, which will be cost effective and will provide detection of non-cooperative targets under any weather conditions. This paper aims to present a new intelligent system, developed within the framework of the EC-funded ISMAEL project, which is based on a new magnetic sensing technology and provides detection, tracking and automatic classification of targets moving on the airport surface. The system is currently being installed at two European airports. Initial experimental results under real airport traffic demonstrate the great potential of the proposed system.