In the last decades, monitoring the regional-scale deformation of international airports has become a priority, in order to ensure the highest operational security and safety standards.

Within this context, among the most innovative and suitable techniques for transport infrastructures monitoring purpose, Persistent Scatterer SAR Interferometry (PSI) technology has proven to be an effective technique to investigate ground deformations [1-3]. However, the application of PSI to effectively and continuously monitor settlement in airports is an open challenge.

The comparison between spatial distribution of the velocity of displacement have shown the PSI methodology to be effective in detecting deformation trends within the inspected runway.

Moreover, punctual displacement-time analysis of specific levelled points and the PS in their surrounding have stressed out a very good fitting between the deformation behaviours observed by the different sensors.

In general, results have demonstrated the viability of integrating InSAR and topographical in-situ survey methods, paving the way to future implementations in prioritizing maintenance activities and helping for decision-making to have a comprehensive and inclusive information data system for the investigation of survey sites.