CASE STUDY

Tailing Dam Monitoring
Since September 2013, the Chilean copper mine Collahuasi has been successfully implemented an IBIS radar monitoring system for the 24/7 monitoring of its tailing dams.

Collahuasi molybdenum mine is located in the Tarapacà region, in the northern part of Chile, at an elevation of 4400 meter above sea level. The tailings produced by the concentrator plant of Collahuasi are transported to the tailing impoundment which is constrained by an earth-filled dam that closes the watershed area, allowing for the storage of 1800 Mton of tailings waste.
After an initial evaluation period, an IBIS-FM unit coupled with the new Eagle Vision camera has been acquired and the radar is now permanently monitoring the tailing dam at Collahuasi, from a distance of 1.9 km providing 24/7 near-real time information on the stability of the embankment.

Apart from a few superficial movements, not related to deep deformation but to the operations of machineries, the radar confirmed the overall stability of the tailing dam. The high resolution images captured by the Eagle-Vision camera can provide a visual support in the identification and origin of movements.

The IBIS radar represents a unique and innovative solution for tailing dam monitoring. Thanks to long range capabilities coupled with the wide coverage and high resolution, the radar is able to cover the entire dam structure from far range without the need to install instrumentation on the embankment, for increased safety of operators and workers.