

Summary

The closer two aircraft are, the more danger there is for all involved. Never are planes in greater proximity or concentration than on the ground so effective coordination is essential if they are to taxi around airports without problems. Radio is used to keep traffic controllers and pilots in contact and in sync – but every radio network on an airport has the potential to interfere with other vital systems such as radar. Precise planning and modelling is required if all safety systems are to work effectively.



Challenge

An international airport was undergoing reconstruction and redevelopment. Its management needed to ensure aircraft on the ground would be in constant contact with controllers during and after all the building works were complete. Specifically, the airport operator needed to know if a new, second transmitter was required to achieve this. As with any commercial operation in the world, the airport did not want to spend money if it did not have to but, if the only option was a second transmitter, the new network could not cause interference to existing systems.



Strategy

ATDI constructed a 3D model of the terrain and the buildings that made up the redeveloped airport terminal. Once this was done, proposed radio sites were placed within the modelling environment and configured with the relevant equipment. Then, a link budget was built that reflected actual working of the communications between air traffic controllers and pilots. Finally, coverage predictions were completed using a suitable propagation model. From this data, the airport management could establish whether a second transmitter was needed.



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