# Reservoir Quality Seismic Needs Ultra-Dense and Broadband Seismic Data

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## Abstract

In the last few years, there has been a tremendous input of new technologies giving birth to a new breed of onshore seismic, broadband, ultra-dense datasets, while using a very efficient operational model. This new generation of land seismic datasets, addresses the challenges of development and production, by delivering a very accurate, high resolution reservoir model. Of course, there is a need to control the full integration, from acquisition (and even survey designs) to data processing and quantitative interpretation. We want to find the proper combination to access the wealth of reservoir knowledge and to extract the thinnest details about its structure, including the lithology and the distribution of fluids inside the reservoir.

Ultra-dense and broadband data sets are the solution to overcoming the near surface negative effects on seismic data and for solving distortions which prevent a full reliable quantitative interpretation. These datasets enable good handling of all surface waves and, with broadband data, increase the bandwidth and the signal to noise ratio, leading to an increase of resolution. The solution is fully integrated from survey design to reservoir characterization and is supported by cost-effective enablers, such as, source blending and automation which can deliver much denser data sets.