# SMOKE AND MIRRORS
# WHICH CONDITION ASSESSMENT TECHNIQUES WORK

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## ABSTRACT

The assessment of condition of water mains is becoming increasingly important on a world-wide basis. Several technologies, including remote-field technique, near-field technique, ultrasonics, linear polarisation resistance soil testing, pressure monitoring and coating defect surveys have been successfully used on more than1500km of steel, cast and ductile iron water and sewer mains in Australia, Hong Kong and Singapore since 1996. Other techniques have also been trialled within this time frame. Although every technique has a solid scientific and technical basis, some cannot be used successfully or meaningfully, due to limitations of the technology. Invariably, techniques require some assumptions to be made in interpreting the results, whether it be with sampling size, material type, coating condition, etc. The validity of these assumptions contributes significantly to the success of the technique.

The type of techniques discussed include intrusive intelligent pigging, direct wall thickness measurements, chemical and electrochemical soil testing, and remote measurement techniques.

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