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Reducing pipe bursts to minimise urban water losses globally

Australia is leading a \$16 million international research project into understanding and preventing water pipes burst.



Credit: istockphoto

The project is the largest international research collaboration led by Australia on water pipes and has world-wide significance because buried pipes provide around 70 per cent of the world's urban water supply.

Leading the international research team is Associate Professor Jayantha Kodikara from Monash University, which has partnered with the University of Technology Sydney and University of Newcastle to develop cost effective advanced condition assessment and failure prediction models that can evaluate pipes before they burst.

The five-year project, funded by seven Australian water authorities, the US Water Research Foundation, and UK Water Industry Research Ltd (UKWIR), will produce advanced techniques and technologies to accurately predict the remaining life of buried pipes and protect against pipe bursts.

Sydney Water, the largest urban water utility in Australia, will contribute \$5.5 million to the project.

Burst pipes have posed a problem for urban water authorities in recent years, when unusually wet conditions followed years of drought. Cooler temperatures and heavy rainfall, for example, can cause expansive clays to move and pull pipes out of alignment.

Similarly, hot weather and low rainfall causes the soil to dry up and contract, again causing pipes to shift, much in the same way that causes cracking in homes over the summer months.

Paul Freeman, Sydney Water's General Manager Asset Management, and Chair of the project's management team said burst water pipes can cut water supplies to residents and businesses, affect safety and transport, and cause financial loss.

'This is great news for Australian cities as the length of the buried pipes of the seven Australian water utilities alone would go around

the world more than one and a half times.

'Sydney Water will contribute a world leading real life pipe test bed in Sydney to research condition assessment and failure prediction.

'We have been able to engage effectively with industry and research partners, and for the first time in a large water pipe collaboration there is overseas investment and knowledge.'

The project has received Australian funding from Sydney Water Corporation, Hunter Water Corporation, South East Water, Melbourne Water, Water Corporation (WA), South Australia Water and City West Water. CSIRO will join the research team in its next phase.

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