



CHALLENGE SPECS

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UKWIR Challenge: Detecting the Build-up of Blockages in Complex Fluid Networks

DISCIPLINES

Engineering & Design, Physical Sciences, Environment

CHALLENGE AWARD

\$15,000

SOLVERS ENGAGED

269

SOLUTIONS

70

PROGRAM DURATION

75 Days

GLOBAL SOLVER PARTICIPATION



As in the rest of the world, the blockage of drains and sewers is a serious problem in the UK as they can have serious consequences such as severe flooding and polluted waterways. It was these potential consequences and the absence of an optimal solution that led the UK Water Industry Research (UKWIR) to run a Challenge to find solutions that could monitor complex sewer networks and detect the formation of such blockages at early stages.

Challenge

- UKWIR was seeking ideas of novel methods to monitor the formation of blockages in sewer networks in order to prevent spillages.
- The reactive approach typically taken by the water industry was unacceptable. They needed a solution that allowed for a proactive approach, which many sectors already took for their asset management, in order to avoid the potentially severe consequences of blockages.
- Winning solutions needed to be robust, safe, low cost, easy to install and operate, and able to detect blockages at an early stage.

Solutions

- The top prize of \$10,000 was won by the [MCA GROUPE](#) – a global engineering and high-tech consulting company.
- Their solution was a sewer monitoring system composed of a myriad of fixed sensors. It was inspired by similar problems faced in other industries that manage large networks (e.g power grids, railways, telecoms etc.).

Result

- The Prize engaged hundreds of Solvers and attracted a diverse range of submissions in terms of both geography and ideas. It allowed UKWIR to access knowledge from relevant expertise from adjacent industries outside of the UK.
- The impact was much bigger than the Challenge itself with the additional training helping to instill a different way of thinking within the team at UKWIR. It also allowed UKWIR to recognize the place and value of Open Innovation in their future research programmes.
- UKWIR & its Steering Committee discussed how they can develop the winning ideas, and MCA and UKWIR are currently in discussions regarding the development of a pilot system.

“We wanted to go beyond our usual cohort of specialists and invite solutions from a potentially unlimited pool of people. In the end, we got brand new thinking with over 50 high quality and original solutions”

Steve Whipp, Project Manager at UKWIR