

## Integrated modelling as necessary aid in making decisions about working with combined sewer system in Cracow

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Will the introduction of 300, 500 or 800 l/s of rainwater into the urban sewer system cause flooding in some other place below? Is there the risk of backwater from the system into the mains? Is it valid to control the maximum drop of rainwater by controlling the flow or maybe by the installation of an antiflooding flap at the outlet? How can you assess the correctness of using the formula for synthetic precipitation in regard to current precipitation in Cracow? Is the location of present street inlets correct? – These and many other questions will be addressed by the author during his presentation on the practical uses of 1d + 2d hydrodynamic modelling used at Kraków Waterworks.

The author will explain how Kraków Waterworks deal with rainwater drainage into combined sewer systems. The presentation will show what the procedure connected with rainwater drainage into city sewer network looks like, from the phase of obtaining technical data and development project coordinations to the development itself and what role hydrodynamic modelling plays in this process. The presentation also features example of solutions adopted to optimise the operation of the sewer network including modelling used for appropriate assessment of existing threats connected with inappropriate selection of collectors, incorrect operation of storm overflows and retention basins. The author will also point out the importance of monitoring of the network including level and flow checks in combined sewers and precipitation measurement done by Kraków Waterworks. The last section of the talk will focus on the directions of development of modern modelling done by Kraków Waterworks.