



Sense-City innovation lab supporting recent advances on Monitoring of urban operations

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Water management is a critical urban issue. Water network monitoring is at stake to ensure timely renovation and to meet water quality standards: recent advances on FEM-based data assimilation to reconstruct water flows and chlorine concentration, as well as novel nanotechnology-based probes simultaneously enabling downsizing, major cost reduction and sensitivity enhancement, will be discussed. The role of the Sense-City urban innovation lab as TRL5 enabler of start-up creation and world-wide deployment will be highlighted.

This platform features a 400m² environment chamber to perform experiments on urban metabolism under moderate to extreme weather conditions and a mini-district including scale-1 concrete and biomaterial buildings, underground drink- and grey water networks, a geothermal facility, a micro-grid, a smart street and connected equipments. On-going research addresses Water, air and soil pollution, energy efficiency, new materials or vegetation in cities, efficient sensor deployment, GPR-detection of buried pipes and shallow geothermics performance.