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New Street-Smart Fire Hydrants Use High Tech Equipment to Conserve Water

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Compared to its record on greenhouse gas emissions, the U.S. has actually done a pretty good job of [conserving water](#), with usage declining over the past 25 years primarily due to improvements in agricultural irrigation and the adoption of power plant cooling processes that recycle water. However, there is plenty of room for improvement and the new hydrants are expected to [enable utilities to conserve more water](#) by detecting and responding to leaks more quickly, and [help utilities to cut their carbon footprint](#), too.

Smart Hydrants and [Water](#) Conservation

Among the companies entering the smart hydrant field, [SmartHydrant](#) notes that a smart hydrant can reduce waste by identifying leaks far more quickly and efficiently than current methods permit. Though utilities regularly monitor known trouble spots such as major intersections, a small leak can still go undetected for long periods of time, until it becomes large enough to disrupt water pressure, undermine pavement, or cause a major rupture in the pipe. A smart hydrant can provide daily monitoring across the system. That can also help reduce the utility's carbon footprint, by helping leak detection crews operate more efficiently. Smart hydrants can also alert utilities to unauthorized hydrant openings.

What is a Smart Hydrant, Anyways?

Another player in the smart hydrant market, [Mueller Systems](#), has come out with a model called Mi.Hydrant that is pretty representative of the technology. It simply consists of an enclosed transceiver that replaces the pumper cap of a standard fire hydrant, so it can easily be installed as a retrofit. It wirelessly transmits water flow data either on demand or according to a schedule. The transceiver has a range of more than 1,000 feet and Mueller notes that standard fire codes require hydrant placement every 500 feet, so there is the potential to create a seamless communication network without installing any new infrastructure.

Water Conservation – The Missing Link

Widespread use of smart fire hydrants could make a significant dent in water wasted due to utility system leaks, but that still leaves the issue of individual water use. Though total water consumption in the U.S. has declined in recent decades according to a recent [U.S. Geological Survey](#) report, that was all thanks to commercial savings, namely agriculture and power [plants](#). Public water utilities have been steadily increasing their output since the 1950's, indicating a continued rise in domestic use. As utilities find new ways to tighten up the distribution system, to take full advantage of those gains it is also important to push for more water household water saving fixtures and appliances.

Image: [Fire hydrant by jiggalo3000](#) on flickr.com.

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