

From controlling everything including your lights and laundry via your smartphone, to your Amazon [Alexa randomly laughing](#) in what some call a very creepy manner, IoT is everywhere. Not only is it surrounding us in our modern homes, it's also present in the production, delivery, placement, and use of concrete.

Smart Technology in the Concrete Industry

Contractors and construction companies are using IoT, software as a service (SaaS) models, and concrete sensors to organize and track everything from [concrete mix design](#), deliveries, efficiency, and concrete placement and performance. As IoT technologies infiltrate concrete plants, they are also making their way into ready-mix trucks and onto jobsites.



Photo credit: Angelle Materials Inc.

Only in recent years, with the early adoption of IoT concrete sensors and devices, have producers been able to better track and accurately maintain concrete quality during its trip

to the jobsite. In the past, there was no avoiding discrepancies as concrete producers were relying solely on human action to track information that could affect the concrete mix, like water added to the mix or extended delays due to traffic. It's no secret that things can easily be forgotten when filling out the delivery ticket, where all the information about the trip and mix is recorded. With the more advanced systems utilizing smart devices, companies have seen improved efficiency and quality control.

More Than a GPS in Mix Trucks

With the fast evolution of technology, we are seeing new devices being developed that have the ability to track truck activity as well as the properties of the materials they are transporting.

In-drum workability sensors are being fixed onto the inside wall of the mixer truck's drum and are able to measure angle, speed, temperature, and load information, which is then wirelessly transmitted to an onboard computer. This computer can then calculate valuable information, such as slump and concrete volume, and transmit it to a display or cloud platform.

Sensors called **load cells** have the ability to calculate and keep track of weight in the mixer drum in order to relay information to truck drivers and concrete producers. **Flow meters** are attached to the tank's auxiliary and are able to record and report on water being added to the mix.

Other devices are conceived to track the actual happenings of the trucks and communicate any important information to the cloud or in certain cases to emergency responders. Thanks to these devices, producers are able to know about any problems with the trucks and deliveries before they return to the concrete plant and act quickly to remediate the issues.



Photo credit: Angelle Materials
Preforming Mix Calibrations

Tracking More than Concrete Delivery

Yes, driver and delivery monitoring are extremely important and the added visibility and quality control capabilities during the delivery process have helped increase efficiency and reduce the margin for error, but what happens after the delivery and how it is monitored is equally important. Using **smart concrete sensors** such as SmartRock2™ sensors during placement and curing can save you weeks of time on bigger projects. These sensors are fully embedded and benefit from wireless technology allowing you to gather concrete temperature and strength data, according to the ASTM C1074 maturity concept, on your

smartphone or tablet in real time.

[Learn more about SmartRock2™ concrete temperature and strength sensors](#)

Taking Concrete Sensors to Another Level

Contractors can now opt to work with select ready mix producers that have adopted the Smart Concrete™ business model. Unlike choosing to buy the SmartRock2™ sensors and implementing the monitoring system themselves, when contractors choose Smart Concrete™ producers, they no longer have to worry about performing mix calibrations prior to using the Giatec concrete sensors and are able to eliminate or drastically reduce the need for concrete break tests. With this technology, **contractors can choose a producer's pre-calibrated mix** in the dedicated Android and iOS app and have concrete temperature and maturity data at their fingertips, in real time. With this information they are able to act on this information to get their projects moving faster.