

## Caterpillar approached the UIC Innovation Center with a problem: inefficient fueling was costing their client \$950m in lost time, wasted fuel, and distracted employees.

This complex organizational issue is exactly the type of challenge the Innovation Center is well suited to tackle. Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. CAT is an industry leader and proudly has a large global presence.

### Project Timeline



### The Process

Research, ideation and prototyping are hallmarks of our problem solving process. In order to find a solution for refueling inefficiencies, the UIC team gathered troves of field data, sat with the end user and incorporated fresh perspectives. What did they find? From highway department project incentives, vehicle technology systems, job site design and weather, drivers were juggling a lot. Armed with data, the team redefined and validated the new problem with Caterpillar, and came up with with three or four useable solutions. Then, it was up to Caterpillar to establish what solutions aligned best with it's organizational operations.

### The Solution

Innovation  $\neq$  Invention. We take things that already exist and apply them in new ways. In this case, we applied an internet of things idea to make drivers more efficient. We developed a tool that leverages big data in new ways. By aggregating multifactorial datasets, drivers are able to set refueling priorities that reduce waste. This solution represents what we've seen proven time and again. Because we aren't deeply embedded in our partners organizations, we challenge the norm. We ask questions that others overlook. We get to a better solution, in part, because we're outsiders.

## The Impact

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The fuel delivery project represents a highly visible product that demonstrated the tangible value of our hybrid student and faculty teams. We shared fresh perspectives with Caterpillar and validated the idea that a lab environment can provide real world solutions. This project contributed to the launching of a series of exciting new collaborations with Caterpillar that help launch products into development. UIC is now embedded as part of a core organizational team - representing a new way of collaborating.

