

SIEMENS

Crowdsourcing Solutions To Turn Gridlock Into Green Lights



SIEMENS

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, and reliability for 170 years. The company is active in more than 200 countries, focusing on the areas of electrification, automation and digitalization.

It is one of the world's largest producers of energy-efficient, resource-saving technologies, a leading provider of power transmission solutions, and a pioneer in infrastructure solutions, automation and software solutions for industry. The company is also a leading supplier of medical imaging equipment, laboratory diagnostics as well as clinical IT.

The Challenge

Siemens is a worldwide leader in resource-saving technologies like offshore wind turbine construction and combined-cycle turbines for power generation, a major provider of power transmission solutions, and a pioneer in infrastructure solutions and automation. With more than 29,000 R&D employees and over \$4 billion invested in R&D in 2013 alone, Siemens considers innovation "its lifeblood." In fact, the 170 year-old company produces an average of 38 inventions per day.

One of Siemens' four core technology development focuses is on infrastructure and cities, and its goal is to address some of the toughest challenges facing the traffic industry. This is because gridlock is more than just a minor inconvenience for drivers—the estimated yearly impact of gridlock in the UK alone is £4.4 billion, not to mention the environmental concerns.

CHALLENGE

Although Siemens has an extremely robust R&D department, they needed a platform that various internal business units could use for their individual innovation programs, as well as one that could easily engage non-employees in a coherent manner.

SOLUTION

Siemens implemented Spigit to address internal and external business challenges. It launched its Mobility IDEA Contest on the platform to find innovative ideas to help solve five of the toughest challenges facing the traffic industry.

RESULT

The winner of the Mobility IDEA Contest proposed using quadcopters to find open parking spots, determine the shortest path to that spot, and help guide drivers to the designated space via a mobile app or through a car's communication system.

Although Siemens has an extremely robust R&D department, they needed a platform that various internal business units could use for their individual innovation programs as well as one that could easily engage non-employees in a coherent manner. “We understand that innovation shouldn’t happen only inside our walls, but is best cultivated when we can gather ideas from the bright minds of today and tomorrow,” said Ben Collar, Director of R&D, Siemens Mobility, Intelligent Traffic Systems. “We can all play a role in deciding how software and data can serve the traffic industry.”

The Solution

Siemens launched its global [Mobility IDEA Contest](#) to find innovative ideas to help solve five of the toughest challenges facing the traffic industry. These include solutions for reducing the carbon footprint of traffic, reducing congestion in downtown areas, and new ways to effectively address the impact of parking.

Rather than sourcing solutions internally, Siemens sought input from the public. The Mobility IDEA Contest website—powered by Mindjet’s [Spigit](#) innovation platform—was aimed at professionals, university students and the community at large, who were challenged to submit ideas for resolving five specific problems faced by the traffic industry. Part of the reason Siemens chose Spigit was because of its ease of use and the potential familiarity of the

interface to participants. “The global scale of the external contest clearly requires an IT platform, as our intent was to engage the public in a way that was comfortable and easy to use,” said Collar. “We envisioned a sort of specialized social network, like a Facebook for idea sharing. And of course, we clearly had a preference for a platform that could be used both externally for this challenge, as well as internally in the future in order to optimize competencies, workload and costs.”

In addition to contributing new ideas, the Spigit platform allowed users to post suggestions for improving existing ideas that had already been submitted, and to vote on those ideas using Spigit’s Pairwise voting feature. Based on the outcomes of this process, the top ideas were automatically graduated and finalists were selected to pitch their idea to a jury panel of seven experts for final evaluation and selection. To drive further engagement, Siemens promoted the challenge at the ITS World Congress event and offered mid-contest prizes to top contributors as well as rewards for the top three finalists and universities.

The three finalists were all students. “Having all three winners of this first contest of its kind at Siemens come from the university level only further proves the importance of developing the great minds of tomorrow to help solve our most pressing challenges,” said Collar in a press release about the contest.

The screenshot displays the Siemens Mobility IDEA Contest website interface. At the top, the Siemens logo is visible on the left, and a search bar is on the right. Below the logo is a navigation menu with links: Home, Background, Process, View Winners, Archived Ideas, Leaderboard, and Back to Home Page. The main content area features a challenge titled "Solving Traffic Challenges Of Tomorrow" with a description: "According to recent statistics the average urban commuter is stuck in traffic for an estimated 34 hours a year. We waste 1.9 billion gallons of fuel annually. What revolutionary ideas do you have to solve today and tomorrow's traffic challenges? Help us to make your city a better place to live!". To the right of the challenge, it indicates "Challenge ended" with a timer showing 00:00:00 (Days, Hrs, Mins) and a "Closed Dec 8, 2014" status. Below the challenge, a "Winners" banner highlights three top ideas: 1. Smart Parking Lot Using Quadcopter (Posted By Amir Ehsani), 2. Safe pedestrian crossing for future (Posted By Sakib Khan), and 3. Self-parking Autonomous (Posted By Sasan Amiri). Further down, there is a "Phase: Complete" indicator, a "View Ideas" button, and a "Challenge Team" dropdown menu. The bottom section of the page is divided into three columns: "Ideas Submission is closed" (with a "Winners announced!" message), "Top Innovators" (listing Sakib Khan with 41 ideas, Goksel Darcan with 36, and Rahul Arora with 10), and "Activity Stream" (showing a post: "Sakib Khan's idea has graduated to the Winning Ideas stage!").

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Ben Collar
Director of R&D, Siemens Mobility, Intelligent Traffic Systems

The Result

Siemens’ panel of experts chose three winners to take the podium at the end of the contest. The third place idea, submitted by Technical University Munich student Sasan Amini, described the infrastructure support for self-parking autonomous vehicles. Clemson University student Sakib Khan submitted the second place idea, to develop technology that allows for safe pedestrian crossings. The first place winner, UMass Dartmouth student Amir Ehsani Zonouz, proposed using quadcopters—a type of small-scale drone—to find open parking spots, determine the shortest path to that spot, and help guide drivers to the designated space either by the driver following the drone to the spot via a mobile app or directly through a car’s communication system.

“This contest brought in a wealth of interesting, innovative, and forward-thinking ideas to help solve our greatest traffic challenges. But, with thirty percent of downtown traffic created by people looking for parking spaces, the judges found Zonouz’s idea to utilize drones to monitor and identify parking spots the most innovative and potentially impactful idea in this contest,” said Collar. A prototyping workshop will take place in 2015 to begin developing the drone concept.

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As part of the contest, Siemens will present Clemson University with a \$50,000 in-kind software grant for achieving the highest level of submissions per university to help train future engineers. It will also reward the additional top two ranking universities by number of submissions, SJCE in Mysore, India, and India’s National Institute of Design, with traffic control software grants worth \$50,000.

Siemens is continuing to use Spigit for internal innovation challenges. They run contests from different businesses running in parallel, and topics are defined by business owners and innovation managers. It’s ultimately intended to be a self-service offering to the businesses: once they learn the ropes, they can use the service as needed. “There have been a lot of very satisfied ‘customers’ so far,” said Collar.

Spigit was founded to help companies unleash the power of their employees, partners, and customers to drive innovation. Spigit is the leading software for crowdsourced innovation, and is used by leading companies in systems integration, financial services, insurance, pharmaceutical, healthcare, technology, and more, including IBM, Capgemini, Citibank, and Pfizer. Spigit’s 4.5M users from 150+ countries have generated over \$1B in increased revenue from their enterprise innovation programs. Spigit is a wholly owned subsidiary of Mindjet, and is headquartered in San Francisco with offices throughout the U.S., U.K., France, Germany, and Australia.

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