Giatec Scientific

Giatec Scientific manufactures concrete testing and analyzing solutions, enabling the wireless monitoring of concrete properties, accurate condition assessment of infrastructure, and durability-based quality control of concrete.

Headquarters	245 Menten Place, Ottawa, Ontario, K2H 9E8
Year Established	2010
NAICS	334512 - Measuring, medical and controlling devices manufacturing
Employees	33
Major Expansions	N/A
Exports	US, Mexico, EU, Australia, Asia-Pacific
Parent Company	N/A
Other Locations	N/A

Located in Ottawa, Ontario, Giatec Scientific Inc. (Giatec) strives to revolutionize the concrete industry by providing technologies that make concrete testing faster, safer, and more efficient. The company produces concrete testing solutions with smart capabilities, meaning its products collect and analyze data before presenting the results to users in order to help them make faster, more informed decisions. Applications of these products include wireless monitoring of concrete properties, accurate condition assessment of infrastructure, and durability-based quality control of concrete.

Giatec was co-founded in 2010 by Dr. Pouria Ghods and Dr. Aali Alizadeh, shortly after they graduated from their PhD programs in civil engineering at Carleton University and the University of Ottawa, respectively. In addition to being classmates during their PhD studies, Ghods and Alizadeh had also been classmates during their undergraduate degrees at the University at Tehran. Throughout their education, Ghods and Alizadeh noticed a gap between academia and industry practices, especially in terms of testing building materials. They wanted to add value to the construction industry by developing accurate methods of assessing concrete properties during its production and life cycle.

Designing products that could accurately analyze the durability of concrete and detect any corrosion over its life cycle would greatly increase the safety of structures. Moreover, the concrete production process is typically very slow and expensive because contractors must carefully determine if the concrete is cured enough to move forward with the next stages of construction. Therefore, being able to assess the concrete's properties such as temperature and strength during production would improve contractors' scheduling and budgeting capabilities.

Giatec began developing tools and devices that could accurately test the quality of concrete by analyzing the properties of concrete samples. Soon, both university and government researchers (in laboratories) and consulting engineers (in the field) were able to use these devices to detect and assess concrete durability and corrosion damage. Giatec then developed wireless concrete sensors that could be used in the field to improve the efficiency of concrete production. These sensors are embedded in the concrete and directly measure its properties in real time, relaying the information wirelessly to a mobile application.

By making such information accessible to contractors from a smartphone, Giatec effectively employs the Internet of Things (IoT) and cloud-based technologies to connect jobsites and provide data to all team members, even if they are not physically at the jobsite. The firm has experienced rapid growth over the past two years, with more than 2,500 construction projects worldwide utilizing the sensor technology. Examples of wireless sensors that Giatec offers include electrical resistance sensors, relative humidity sensors, and concrete maturity sensors.

Initially, Giatec sold its products to construction companies and contractors to improve their budgeting and scheduling capabilities. The company then moved one step up the supply chain by selling directly to ready-mix concrete suppliers. These suppliers offer the sensors with their ready-mix concrete as an added value to contractors. This allows suppliers to upsell their concrete mix and differentiate their brand while Giatec reaches smaller contractors. All customers, regardless of their size, benefit immediately from Giatec's products: contractors and construction companies see improved bottom lines due to better project management; concrete suppliers enjoy access to the data, allowing them to optimize their concrete mixes and develop better products.

In addition to the money and time that Giatec's products save customers, the company is also well known for its commitment to developing new and innovative solutions. Giatec's reputation as a technological leader in the construction industry has allowed it to quickly expand and establish a global presence. Giatec exports to 70 countries around the world. Because its products are relatively small, Giatec offers easy shipping and handling, as well as exceptional technical support.

Ghods and Alizadeh decided to establish the company in Ottawa to maximize the connections and networks they had developed there during their PhD studies. Because of these connections, Giatec was able to find a reliable local machine shop to manufacture its earliest lab devices, as well as a hardware supplier with a larger volume capacity once the company began to grow. Furthermore, as IoT continues to be a key component of Giatec's products, the company's location in a technological hub is key.

Giatec's ability to capitalize on the benefits of being located in Ottawa and its continuous network growth can be directly attributed to its involvement in local community initiatives. For example, Ghods and Alizadeh participate in the Idea Distillery, an initiative to help chief executive officers of local firms network and discuss new ideas. Giatec also participates in various initiatives developed by the Fresh Founders, Invest Ottawa and Ottawa Chamber of Commerce.

As a rapidly growing company, Giatec is very specific about who it hires. The core values that Ghods and Alizadeh look for in potential employees are creativity, passion, and integrity. About 50 percent of the employees hired are technical workers or engineers who focus on product development, while the remaining 50 percent focus on customer service, marketing, and sales. Giatec encourages all of its employees (whose educational levels range from high-school diploma to PhD) to continue learning about the industry and to constantly improve their skills. To that end, the firm offers technical training sessions, advertises public seminars and workshops that focus on self-driven education, and even hosts in-office

meetings with mentors and industry experts.

Initially, attracting talented employees was difficult because Giatec was a small company with minimal recognition; however, as the company began to experience success, receive awards, and gain a reputation for innovation, this process became much easier. Giatec uses both advertising and networking to find potential candidates. Having two universities located within the immediate area has been extremely beneficial due to their large pool of talented and ambitious students. Giatec provides all of its employees with mentors and coaches to internally assist their professional development. Not only does this assistance address the lack of experience in some of the younger employees, but it also helps retain employees who understand the significant value of a mentor.

Giatec has already overcome the challenge of gaining traction as a new business by using its network to build a talented team and then developing an innovative product. Keeping up with the rapid pace of its organic growth is the company's greatest current challenge. Giatec has experienced 100 percent annual growth for the past three years, which requires employees to constantly adjust their mindsets and goals. Fortunately, the mentorship program has helped employees transition smoothly into new roles as the company continues to expand. Even in the face of such growth, Ghods and Alizadeh are determined to maintain the culture and workplace environment that has allowed Giatec to experience its current success.

Over the next three years, Giatec will focus on establishing a larger presence within North America. By focusing on this market, Giatec can ensure potential customers have the technology base that enables them to effectively use the company's products. Ghods and Alizadeh believe that Giatec's astonishing growth is sustainable if the company continues to develop new products and features that solve customers' existing issues, and maintains a forward-looking mindset by creating products that solve customers' anticipated issues as well. Although developing solutions for problems that do not yet exist is challenging, a strong focus on the future is one of the company's most valued characteristics.

In the long term, Giatec's founders hope to completely revolutionize the concrete industry. They believe that they can develop technology sophisticated enough to make analytical decisions and predictions based on the data collected, which would allow individuals with no knowledge of concrete to use these products to make optimal decisions. Another major goal is to reduce the carbon footprint of construction by providing methods of "greener" construction. Ghods and Alizadeh are aware of how innovative Giatec's goals and products are, which is why they ensure that all products developed are patent protected. Despite multiple opportunities to sell Giatec, Ghods and Alizadeh have refused these offers because they believe Giatec can make a global impact.