An Historic Perspective on Carbonate Cement Concrete and transitioning the Technology from the University to the Company
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Abstract

The increase in CO₂ emission after the onset of industrial age has pushed atmospheric CO₂ levels high enough to attract world’s attention. In recent years, many individuals and organizations such as national labs, private companies, entrepreneurs and universities have proposed multiple solutions. When Solidia Technologies joined this journey, its initial goal was to produce a carbon negative concrete. To accomplish this, a carbonatable, natural mineral was used as a cement-replacement. The HLPS process, developed here at Rutgers, reacted the mineral with CO₂ to harden the concrete. Concrete was chosen because it is the most-consumed material in the world after water. As the journey progressed, it was realized that carbonatable, natural minerals were scarce and expensive. As such, they could address only a very small fraction of the concrete industry and the CO₂ problem. A modified approach to address this issue resulted in the development of a new product; Solidia Cement.

The ensuing success of Solidia Cement depended on three critical things: collaboration, partnership and credibility. In a start-up environment, you have to move fast with limited resources. The best way to expand your capabilities is to build partnerships and collaborations with capable people and/or organizations. The credibility becomes very important when you communicate your message to the industry. In some cases, the inventor is not necessarily the expert in the field and in these cases it makes much more sense to convey your message through the experts rather than the inventors to gain credibility and recognition faster.