Knowledge to Practice:

aci Foundation

SDC Technology Forum 43

SDC Technology Forum 43 was recently held in Scottsdale, AZ. It included a Concrete 2029 Workshop in which the role of technology development served as a springboard to show ways that the concrete industry can morph from a project industry to a product industry. With a technology road map, our concrete product can hold pace with the innovation needed to keep up with the increasingly swift rate of change we experience globally. The workshop illuminated some of the spectrum issues that the concrete industry faces with advances in technology, including:

- Proprietary versus nonproprietary;
- Near-term versus long-term;
- Prescriptive versus performance;
- Bleeding edge versus leading edge;
- Process focused versus outcome focused;
- Design focused versus constructability focused;
- Quality versus productivity;
- Profitability versus sustainability; and
- Incremental versus disruptive.

Also highlighted were the obstacles experienced by industry members every day, such as:

- Legal and regulatory restrictions;
- Risk not aligned to reward;
- Large investment in existing approaches;
- Threats to an established market;
- Fragmentation of industry;
- Lack of communication, rapport, and collaboration;
- Lack of resources;
- Life cycle cost ignored;
- Risk aversion; and
- Uncertainty of impact of innovation.

The technology forum featured technology showcases from GCP Applied Technologies, Inc., on the benefits of control flow concrete; and Surface Tech LLC's digital solutions—built by experienced concrete contractors, commercial and residential builders, and concrete suppliers—that provide best practices when supplying and building with concrete.

The audience heard updates from Oak Ridge National Laboratory, Gate Precast, and the U.S. Army Corps of Engineers on ongoing work in applications of three-dimensional (3-D) printing in the concrete industry. The recent publication of "Guide to Use of Industry Foundation Classes (IFC) in Exchange of Reinforcement Models (ACI 131.2R-17)" was highlighted. This guide and its companion IFC will enable automation and reliable efficient exchanges of reinforcing bar information between software products provided by different software vendors.

Additionally, the "History and Future of Self-Consolidating Concrete (SCC)" was presented and a breakout session was held to understand what the industry can do to increase the use of SCC.

Tour of HercuTech's manufacturing facility in Tempe, AZ

Attendees had the opportunity to tour HercuTech's manufacturing facility in Tempe, AZ, and witness fabrication of HercuWalls®.HercuWall is a patented, panelized wall construction system containing concrete, steel, and foam insulation. Compared to wood framing, the HercuWall system requires significantly less labor and time to construct, yet is stronger, more durable, and more energy efficient.

2017 Annual Report Now Available

The ACI Foundation released its 2017 Annual Report, which recaps the foundation's progress in 2017 and looks ahead to future challenges facing the concrete industry. A PDF version of the report is available online at **www.acifoundation.org.** Print copies are available upon request by contacting Cameron Innis at cameron.innis@concrete.org. The staff at the ACI Foundation are grateful to all who partnered with us and generously donated time and resources to advance the concrete industry; we look forward to an even better 2018.

Ann Daugherty is the Director of the ACI Foundation, a not-for-profit subsidiary of ACI. The Foundation facilitates collaboration among a cross section of concrete industry leaders to problem-solve technical issues, accelerate the acceptance of innovative technologies, and bring more young people into the concrete industry. For more information, contact ann.daugherty@acifoundation.org.