

To: Members of the IACMI Infrastructure & Construction (I&C) Working Group
From: Joe Fox
Subject: Summary of I&C Working Group meeting held 6/20/23

The twelfth meeting of the Infrastructure & Construction (I&C) working group was held on June 20, 2023 during IACMI's annual meeting in Knoxville. Approximately 50 people attended the meeting in-person, and another 10 attendees participated virtually via Microsoft Teams. Joe Fox and John Unser co-facilitated the meeting, which lasted 90 minutes.

This summary is accompanied by a pdf file that contains all the slides shown during the meeting. Slide 2 shows the agenda and the slide numbers for each topic. The entire slide deck can also be accessed in the folder for the I&C working group on Microsoft Teams. Due to technical difficulties, the meeting was not recorded.

Joe Fox opened the meeting by showing the motivation for creating the I&C working group (slides 3-5), reviewing the objectives of the working group, and tying them to the agenda (slides 6-7).

The next portion of the meeting (slides 8-42) was devoted to a discussion of R&D projects. Joe began by reviewing the working group's process for initiating an R&D project (slides 8-15).

Steve Nolet from TPI gave an update on his efforts to use the recycling technologies developed by RiversEdge Composites, GreenTex, and Carbon Rivers/TexTech to convert end-of-life wind turbine blades into useful products for I&C applications (slides 16-24); the applications included building panels that could be used in place of particle board and plywood, and liners for cured-in-place pipe (CIPP). With the DOE renewal now in place, Steve proposed that future work continue in a project nicknamed "Blades to Buildings." The objective of the project would be to advance the Technology Readiness Level (TRL) of one or more of the aforementioned technologies (slides 25-29).

Joe Fox gave an update on the "Lifetime Predictions" project (slides 30-38). This project was originally proposed as a Benefit-Cost Analysis (BCA) project, but in response to "Voice of the Customer" feedback from a sounding board of state DOT representatives, it has morphed into a project intended to predict the lifetime of FRP elements in bridge applications. Prof. Roberto-Lopez Anido from the University of Maine has proposed a project to predict the lifetime of the FRP girders commercialized by Advanced Infrastructure Technologies (slides 39-42). IACMI's Consortium Council approved \$50K of Resource Pool funding for this project the day before the working group met.

On the education front, Joe described the panel at the SAMPE annual meeting that featured four members of IACMI talking about current and emerging applications of FRP composites in infrastructure (slides 43-46). Joe also described recent and upcoming presentations on lowering CO₂ emissions/ decarbonization with FRP (slides 47-57).

Joe summarized some key highlights from the recent ACMA Pultrusion conference (slides 58-63), including ASCE's long-awaited approval of the Load & Resistance Factor Design (LRFD) for pultruded structures. Joe also talked about the recently approved ACI standard for the use of GFRP rebar-reinforced concrete in buildings (slides 65-67).

John Unser gave an update on the activities of the funding subcommittee (slides 68-78). He included an overview of the calendar and some of the Notice of Funding Opportunities (NOFOs) that can be found on the DOT Navigator website, including PROTECT and SS4A grants.

Ryan Kelly from Terrapin Blue gave a mini-tutorial on grant writing (slides 79-101) and walked the audience through a stepwise process for securing awards like DOT's RAISE grants.

The **action items** from the meeting are summarized on slide 103 and are copied here:

- Distribute information from today's meeting
 - Slides, recording, meeting summary
- Schedule project planning meetings for the "Blades to Buildings" and "Lifetime Predictions" projects

- Create and disseminate a Decarbonization story for FRP vs. concrete
- Send ideas for new projects to
 - Joe Fox at foxconsulting147@gmail.com
 - John Unser at john@compositeapplicationsgroup.com
- Schedule the next working group meeting in the September-October timeframe

Comments/questions/suggestions can be directed to Joe Fox (foxconsulting147@gmail.com) or John Unser (john@compositeapplicationsgroup.com).