CALLAC: Consortium for Accelerated Innovation and Insertion of Advanced Composites

Where Do We Go from Here?

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Roadmapping Workshop
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“KAYAK”
CAIIAC Program Deliverables

Two Outcomes Are Required from Our Planning Grant Effort:

- A complete and ready to implement technology transfer roadmap that clearly shows each composite technology readiness for transfer to key industrial markets and government
- An identifiable consortium organization that is ready to implement the CAIIAC mission
An Effective Technology Roadmapping Approach: Meta-Roadmapping

- Meta-Roadmapping involves analysis of existing roadmaps, scientific publications and patents to derive useful information about the emerging technologies. Based on the result of this analysis, a meta-roadmap is developed in conjunction with experts’ opinion.
- This approach differs from traditional roadmapping process in that it can provide an idea about the technology under study from different perspectives in a single meta-roadmap.
Four Phases of Meta-Roadmapping

Phase 1: Roadmaps Analysis
Phase 2: Publications Analysis
Phase 3: Patents Analysis
Phase 4: Triangulation

In Phase 4, results from Phases 1-3 are combined to define a list of emerging technologies to become a starting point for the development of meta-roadmap by subject experts.
Grand Technical Challenges

Prioritized Based on Polling Key Leaders:
1. Standardized composite design and testing for faster and more affordable certifications
2. Scalable and reproducible out-of-autoclave processes and affordable tooling
3. Quick and reliable joining and repairs
4. Inclusion of nanomaterials for improved performance
5. Structural health monitoring of life cycle performance
6. Recycling and reuse of composites
CAIIAC Technology Maturation Approach

1. Discover in U.S. & Globally
   - Basic research
     - Single & multi-disciplines
   - Technology pipeline

4. CAILAC Shared Facilities
   - Early stakeholder engagement
   - Business case orientation
   - Application pipeline
   - BcRL tipping point
   - Tech/mfg for market opportunities
   - Bridging the missing middle
   - Reaching tipping point onto full scale market insertion

7. Industrial Transition
   - Insertion
     - Deployment
     - Commercialization
   - Build here in U.S.

10. Build here decision
    - Supply chain readiness
    - Workforce development
    - Build here, sell globally
    - Build where decision
xRL Readiness Maturity with Time
CALLAC Membership Activities

• Identified Key Potential Partners in the Composites Industry – Many are Here Today
• Established Database of Potential Partners
  • Highlights Composite Expertise
  • Identifies Market Segment Represented
  • Covers Technologists to Business Specialists
• Contact via F2F, Phone, Text and/or E-mail
• Two More Workshops Planned for 2015
• Preparation for NIST AMTech Phase II Award (Project-Based)
Summary

Thank you all for participating in CAIIAC Workshop I.

We look forward to your active participation in the upcoming CAIIAC activities and workshops.