



SMART Wind Consortium

Project Introduction

Developing a Consensus-Based

**Sustainable Manufacturing, Advanced Research & Technology
Roadmap for Distributed Wind**

December 17, 2014

Trudy Forsyth



- ***Con·sor·tium:*** *an agreement, combination, or group (as of companies) formed to undertake an enterprise beyond the resources of any one member*

SMART Wind Consortium is connecting over 80 collaborators to develop new near-term and mid-term actions (near-term applied research and advanced manufacturing opportunities) and partnerships needed to increase distributed wind turbine cost competitiveness.

www.distributedwind.org/smart-wind-sign-up/

2-year grant (ends May 2016) awarded to DWEA, supported by eFormative Options and Wind Advisors Team to:

- 1) Form a **consortium** of DW manufacturers, suppliers, university researchers, manufacturing experts; and
- 2) Develop a **roadmap** to identify technology and manufacturing gaps, prioritize actions, and foster solutions

*Overall program aim:
Support OEMs by identifying areas to reduce technology and manufacturing costs.*

SMART WIND CONSORTIUM

Proposal to
National Institute of
Standards & Technology
AMTech Program

Developing a Consensus-Based
Sustainable Manufacturing, Advanced Research & Technology
Roadmap for Distributed Wind

2013-NIST-AMTECH-01



Core Team



**DWEA Executive
Director**
Jennifer Jenkins



Project Manager
Heather Rhoads-
Weaver
eFormative Options



Technical Lead
Trudy Forsyth
Wind Advisors Team



Technical Co-Lead
Brent Summerville
Summerville Wind & Sun

Support Team



Communications
Ruth Baranowski
Wind Advisors Team



Financial Operations
Mary Childress, CPA



Stakeholder Research
Kurt Sahl
eFormative Options



Market Analysis
Matthew Gagne
eFormative Options



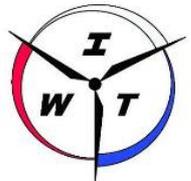
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Industry Participation (partial)

DWEA speaks for all the Major Players



KEYES, FOX & WIEDMAN LLP





OUR WIND OUR POWER OUR FUTURE

Academic-Research University Participation in Consortium (partial)



Appalachian State University



DWEA OEM Steering Group



Aeronautica Windpower



Bergey Windpower



Black Island Wind Turbines



Dakota Turbines



Endurance Wind Power



Eocycle Technologies



Northern Power Systems



Pika Energy



Primus Windpower

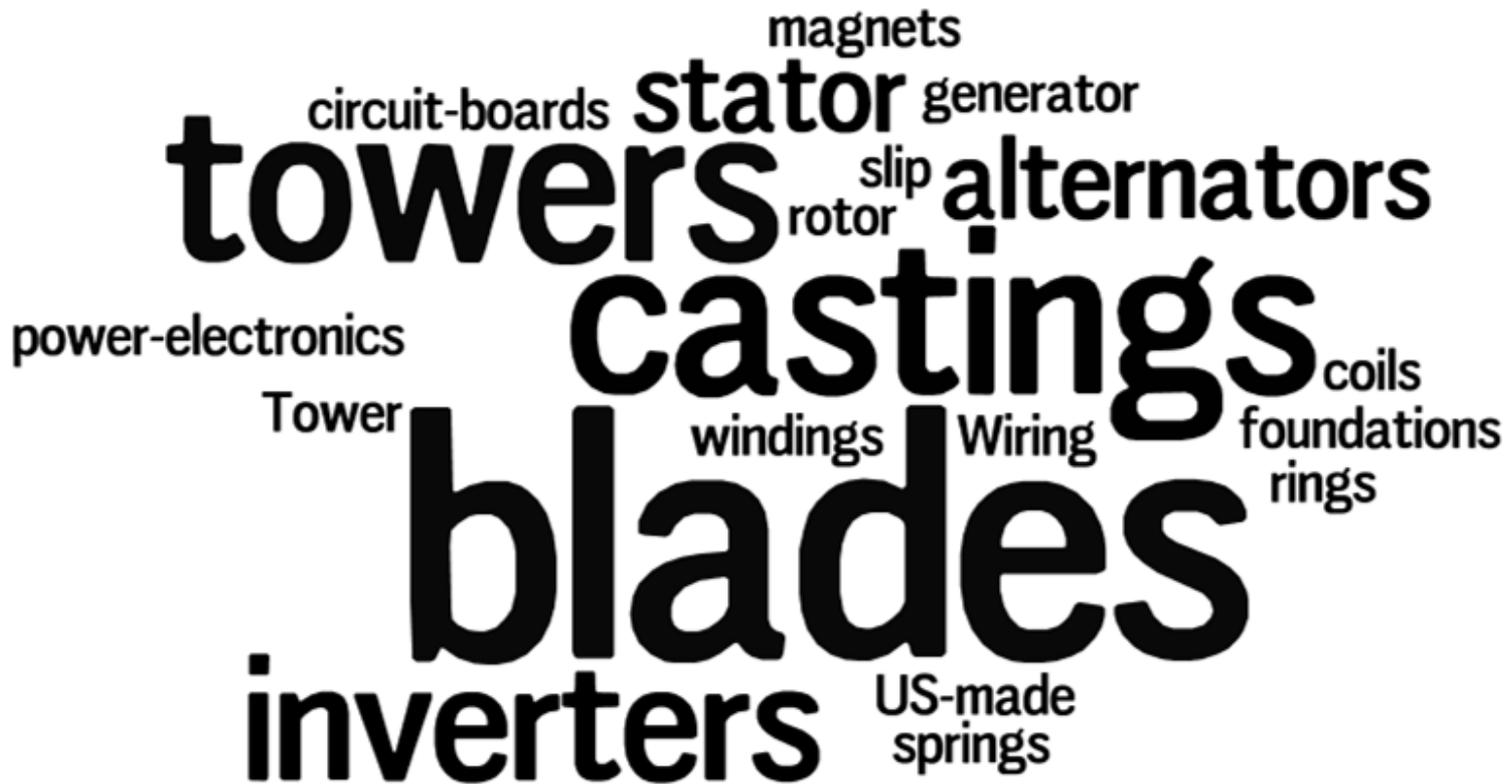


Ventera Wind



Xzeres Wind

Hard-to-Produce/Source Parts



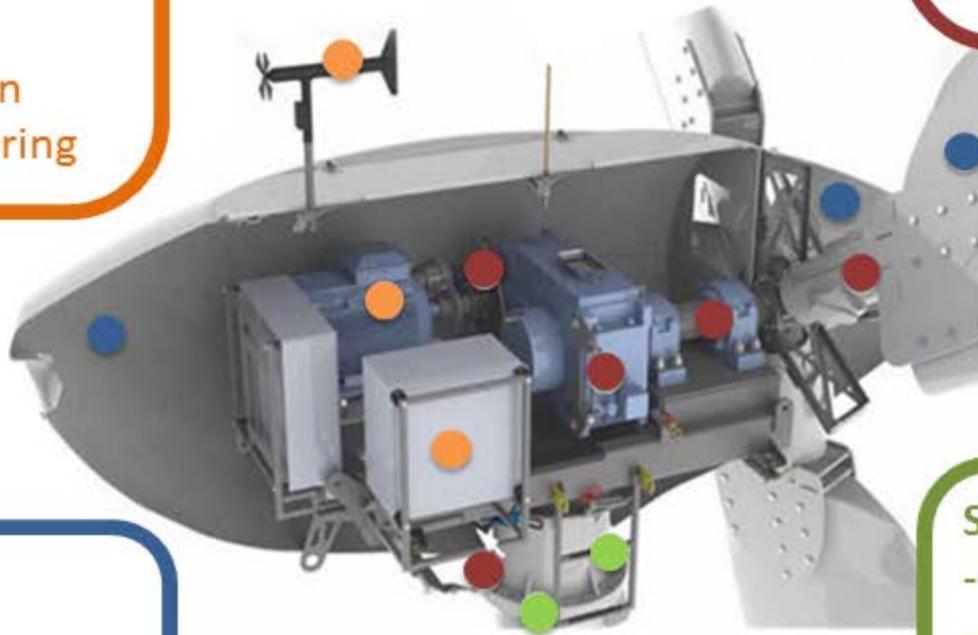
Electrical Systems

- Inverter
- Controller
- Alternator
- Power electronics
- Generator
- Magnets
- Bus bars
- Slip rings
- Interconnection
- System monitoring

Distributed wind energy turbine systems, subsystems, components and piece parts divided into four subgroups

Mechanical Systems

- Shafts
- Bearings
- Braking system
- Gearbox
- Pitching system
- Furling system
- Yaw system



Composites

- Blades
- Nacelle housing
- Nosecone
- Tower

Support Structures

- Tower
- Access ladder
- Foundation
- Anchoring System
- Permitting

SMART Wind Consortium In-Person Meetings

	Meeting	Location	Date
	Project Meet & Greet, Initial Steering Meeting	Stevens Point, WI	June 17 and 19, 2014 In conjunction with Small Wind Conference
1	Consortium Launch	Albany, NY	October 15-16, 2014 In conjunction with DWEA All-States Summit
2	Mechanical Systems Subgroup	Denver, CO	November 12-14, 2014
3	Support Structures Subgroup	Denver, CO	January 13-14, 2015
4	Composites Subgroup	Denver, CO	February 16-18, 2015
5	Electrical Systems Subgroup	Washington, DC	March 25-27, 2015 In conjunction with DW15 Hill Event
6	Roadmap Prioritization	Washington, DC	February or March 2016
	Finalize, Produce & Distribute Roadmap		Project Completion: May 31, 2016

Register at www.distributedwind.org/smart-wind-consortium

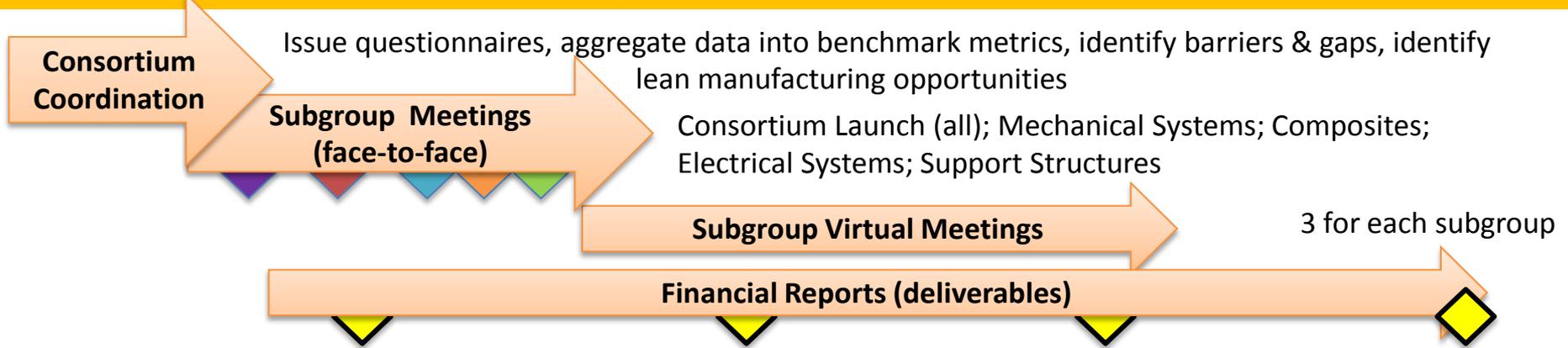
Initial SMART Wind strategies

- Identify common distributed wind manufacturing gaps and barriers
- Prioritize solutions to those gaps for today and for future scalability
- Facilitate a rapid transfer of innovation into American-manufactured wind turbines, open new market opportunities, expand distributed wind applications
- Reduce lifecycle installed costs, maintain high product quality and safe installations
- Secure U.S. global competitiveness and leadership



Roadmapping SMART Wind Schedule

AMTech-SMART Wind Consortium Development



AMTech-SMART Wind Technology Roadmap Development

