



Society for the Advancement of Material and Process Engineering

SAMPE

WHO ARE WE?



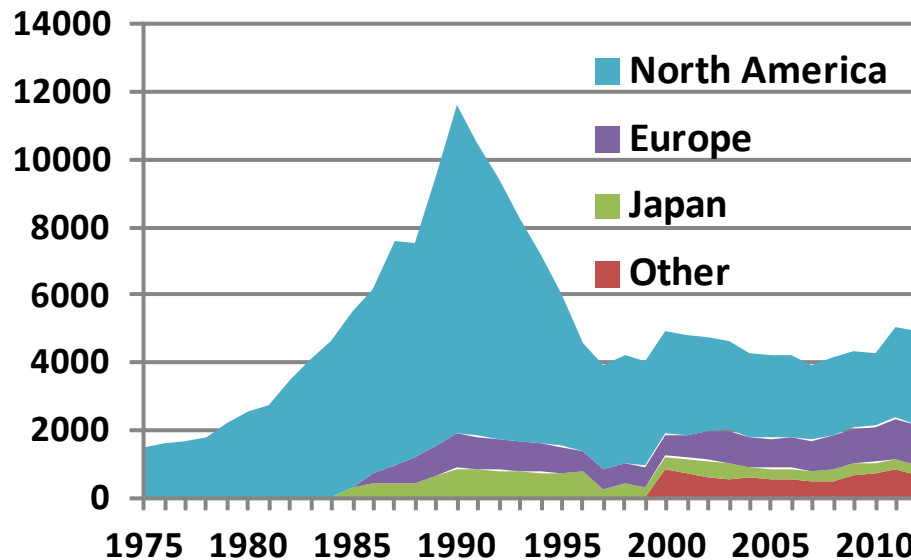
SAMPE is:

- **Material and Process (M&P) Scientists, Engineers, and Academicians**
- **World-Wide Organization**
 - North America
 - Europe
 - Japan
- **Individuals**
 - Approximately 5,000 members
 - North America ~2,500
 - International ~ 2,500
 - Professional Members ~ 2,100
 - Student Members ~400

SAMPE History



Formed in 1944 by nine Southern California aerospace professionals concerned with the scarcity of materials and the resulting need to economize.



- Fast growth in the 80s corrected in the 90s
- International in the late 80s

SAMPE Mission Statement



SAMPE provides the global forum for information, education, and professional fellowship for those who define the leading edge and application of material and process engineering

In other words – **SAMPE** is the engineering society for materials and processes

WHAT IS MATERIAL AND PROCESS ENGINEERING?



M&P Engineering is the technology by which materials are developed or selected and manufacturing processes chosen which will convert those materials into products which meet:

- **Design**
- **Performance**
- **Producibility**
- **Quality**
- **Cost Effective Criteria**

SAMPE is made up of Chapters



SAMPE Chapters -

- **25 Professional Chapters**
- **22 Student Chapters**
- **17 International Chapters**

SAMPE's Strength is in its Chapters

SAMPE Today



- International organization becoming global – franchised regions with a global board responsible for brand.
- Best opportunity to network among M&P engineers, material developers, fabricators, tooling, design, test & analysis, sales – people who make things!
- Perfect blend of science and technology – the true M&P community for advanced materials.

SAMPE's Goals



1. **SAMPE** will be recognized globally as the premier source of technical information by the Materials & Processes Community
2. **SAMPE** will be recognized as the premier source of information in breadth and depth for composites technology
3. **SAMPE** will be recognized as the primary forum for networking and interaction between those with M&P problems and those with M&P solutions
4. **SAMPE** will be valued by our members, exhibitors, and the M&P community as a stable partner, focused on their needs and satisfaction

Why are we here?



- Advanced composites are expanding well beyond the aerospace market.
- It is SAMPE's obligation to our membership to maintain technical excellence in all fields involving advanced material and process engineering
- Clearly Distributed Wind Energy is an area we should be working in.
- We are here to learn.

But we are also here to offer



- Department of Energy recent announcement for the Advanced Composites Manufacturing Innovation Institute is significant
- Our members are experts in composite materials, manufacturing processes, design and analysis.
- Forums, including international, national and local symposiums, in addition to publications training workshops offer opportunities to share and learn about advancements in composites

Wind Energy and SAMPE Journal



SAMPE Journal
Society for the Advancement of Material and Process Engineering
November/December 2010, Vol. 46, No. 6
www.sampe.org

Wind Energy

SAMPE

Composite Design Software – Gaining Currency Within the Wind Industry

Dr. Olivier Guillemain
VISTAGY, Inc., Waltham, MA
Email: olivier.guillemain@vistagy.com

SAMPE Journal
November/December 2012, Vol. 48, No. 6
www.sampe.org

Wind Energy/
Power Technologies

SAMPE

Feature Article

Durability and Reliability of Large Composite Wind Turbine Blades

G. Abumeri and F. Abdi
Alpha STAR Corporation
J. Paquette
Sandia National Laboratory

SAMPE Conf. and Chapters



Advances in Epoxy Technology as Matrix Materials for Wind Turbine Blade Composites

George C. Jacob, Nikhil E. Verghese, Theophanous Theophanis, Ha Q. Pham, Bernd Hoevel, Sweta Somasi
The Dow Chemical Company

Acknowledgements

Prof. Frank Bates' group at University of Minnesota

Prof. H. J. Sue's group at Texas A&M

John F. Mandell's group at Montana State University



COMPOSITE MATERIALS FOR INNOVATIVE WIND TURBINE BLADES*

Thomas D. Ashwill and Joshua A. Paquette
Wind Energy Technology Department
Sandia National Laboratories†
Albuquerque, NM 87185



FIBER OPTIC DISTRIBUTED STRAIN SENSING USED TO INVESTIGATE THE STRAIN FIELDS IN A WIND TURBINE BLADE AND IN A TEST COUPON WITH OPEN HOLES

J. Renee Pedrazzani, Matt Castellucci, Alex K. Sang, Mark E. Froggatt
Sandie M. Klute, Dawn K. Gifford

COMPOSITE MATERIALS FATIGUE ISSUES IN WIND TURBINE BLADE CONSTRUCTION

John F. Mandell, Daniel D. Samborsky, and Pancasatya Agastra
Department of Chemical and Biological Engineering, Montana State University,
Bozeman, MT 59717

SAMPE 2008



Carolinas

Hexcel is also a major supplier of composites for wind turbine blades and other industrial applications.

Composites Technologies in the Alternate Energy and Oil & Gas Markets

SAMPE SETEC Tutorial Program

9 September 2014

Tampere, Finland

Dr. Scott W. Beckwith



CW
CompositesWorld

Jeff Sloan (SAMPE RM Chapter)

Editor, CompositesWorld

CompositesWorld magazine

CompositesWorld Weekly

CompositesWorld EXTRA

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Wind/Energy Composites: Jan. 2015

Offshore wind connected to German grid exceeds 1 GW: jan 2015

Wind blades: Progress and challenges

Article Published: 10/1/2013

Despite double-digit wind energy industry growth, turbine blade manufacturers and materials suppliers acknowledge a pressing need to reduce costs and innovate.

Fair winds for offshore wind farms

Article Published: 6/1/2013

Innovations in blades, turbines and foundations are helping spur growth in a very big way.

Novel offshore wind energy system relies on carbon fiber sails

Article Published: 8/27/2012

The 50-kW Nova project features a composites-intensive offshore, double-arm, vertical axes wind turbine system (VAWTS) that will investigate the affordability and feasibility of manufacturing this innovative energy system

Industry News MHI Vestas begins hiring for 80m wind blade manufacturing

The 80m blades will be fabricated for DONG Energy's 258-MW Burbo Bank Extension project, off the coast of Liverpool Bay in the UK.

Posted on: 2/9/2015

Source: [CompositesWorld](http://www.compositesworld.com)

3-D preforms: Fast, efficient blade-root manufacture

Article Published: 6/1/2011

To expedite the blade root manufacturing process for wind turbine blade manufacturers, 3TEX Inc. (Cary, N.C.) has developed RapidRoot, a 3-D preform.

Thermoplastic Wind Blades: To be or not?

Article Published: 3/31/2012

Will future wind blades incorporate thermoplastic composites? It depends on whom you ask.

Core for composites: Winds of change

Article Published: 6/1/2010