SAMTECH to announce its first conference about Wind Turbines Dynamic Loads prediction

***Liege, Belgium, October 2007**. SAMTECH, the European specialist in Computer Aided Engineering software and advanced FEA modeling technology, announced its first conference dedicated to "Wind Turbines dynamic loads prediction for certification". The event that will be supported by keynote presentations from the Wind Energy industry, will be held on 28th of November 2007, Hotel "Le Royal Meridien", Hamburg, Germany. It will be the opportunity to demonstrate the new S4WT (SAMCEF for Wind Turbines) environment for the design of Wind Turbines.*

For centuries, people have used the power of wind for sailing ships, milling grain and pumping water. More recently, wind turbine technology has enabled us to efficiently harness wind to generate electricity. Today, wind power is the world's fastest growing energy source, highly effective in contributing to the improvement in climate change. The wind industry continues to expand and needs to develop larger, more reliable and more efficient wind turbines. Building a highly reliable wind turbine is a big challenge. Wind turbines are large flexible articulated structures submitted to aerodynamic transient excitations. These dynamic loads may result in significant mechanical problems, sometimes with dramatic and expensive consequences such as failure of gear pinions, bearings, buckling of tower, blade fracture… resulting from dynamic loading and fatigue…

The conference organized by SAMTECH about "Wind Turbines dynamic loads prediction for certification" will provide the participants with an excellent opportunity to learn from the wind turbines professional community about industrial expectations and available advanced numerical simulation techniques to analyze and predict the aero-elastic and mechatronic behavior of wind turbines.

The conference in Hamburg welcomes contributions from experienced wind turbines professionals such as GERMANISCHER LLOYD, GENERAL ELECTRIC, SCHAEFFLER, EICKHOFF and ECOTECNIA. It will also be the opportunity for participants to attend the first public demonstration of *S4WT* (SAMCEF for Wind Turbines), the new software developed by SAMTECH. From a user-friendly Desktop, it allows Wind Turbines designers to easily edit pre-defined wind turbines models, to launch pre-defined computation schemes (transient responses, modal analyses, fatigue analyses…) and to perform specific post-processing in order to analyze the wind turbine flexible dynamic behavior and resonances.

From now on, S4WT will help industrial designers to predict more easily and accurately the dynamic loads acting on the various Wind Turbines components (gearbox, bearings, bedplate, blades, tower…) and to reduce the overall time-to-market.

"*In the past, dynamic loads were computed with aero-elastic programs which focussed mainly on blade loads and controllers for blade pitch and generator regulation, but using very simplistic mechanical models for the power train and further structural components of importance for the dynamic behaviour of the complete wind turbine system. The number of degrees of freedom of these simplified models had generally been less than 100 for a complete aero-elastic wind turbine model.*" explained Andreas Heege, Director of SAMTECH Iberica, the competence centre for the global design and the detailed mechatronic verification of Wind Turbines created in 2005. "*In contrast, the "Start-Up Wind Turbine Models" encapsulated in S4WT offer, in addition to validated*

approaches for aero-elasticity and controller functionalities, very detailed power train models and general functionalities to include structural components like the yaw and pitch mechanism, bedplate as well as other important structural components." continued Andreas Heege. "*The "Start-Up Wind Turbine Models" encapsulated in S4WT are based on parameterised models with more than 2000 degrees of freedom, thus offering a superior representation of dynamic effects*."

Following the technical presentations, the second part of the conference will be dedicated to a forum to define the priorities for future development of functionalities in the S4WT design environment.

For complete information about the conference, including the full agenda and registration kit, please visit: www.samcef.com/S4WT_Conference/.

About SAMTECH

SAMTECH s.a. is a European specialist in Computer Aided Engineering (CAE) software for Finite Element Analysis (FEA) and Multi-Disciplinary Optimization (MDO). SAMTECH develops and markets the general-purpose Finite Element Analysis code ***SAMCEF***, the Multi-Disciplinary Optimization platform ***BOSS quattro***, the Open CAE Design Framework ***CAESAM***, the multi-physics solver ***OOFELIE*** *as well as* ***Professional solutions*** such as ***S4WT*** *(SAMCEF for Wind Turbines),* ***S4R*** *(SAMCEF for Rotors),* ***S4PL&S*** *(SAMCEF for Power Lines and Substations)* resulting from the integration of specific and customized skills with these application oriented software. SAMTECH is present in Belgium, France, Germany, Italy, Spain, UK and China for technical support, sales and engineering services. The company relies also on a network of technically qualified distributors in other markets all over the world.

Visit **http://www.samcef.com** for further details on SAMTECH Product/Service offer!

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