NAFEMS UK Regional Conference 2018 - Abstract Submission

Submission Date	2017-12-21 07:46:21
Name	Mr. Rodrygo Zanoni
Job Title	Tower Finite Element Specialist Engineer
Company	Siemens Gamesa Renewable Energy / Brunel Netherlands
Department	Tower Structures
Please identify the event for which your submitting?	NAFEMS UK Conference 2018
Will you be the presenting author?	Yes
Presentation Title	Taking Simulation to the Next Level - Finite Element Model and Engineer
Relevant Themes / Keywords	FE modeling, training engineer, best practices

Abstract (plain text)	The first thing that comes to mind when you think about taking simulation to the next level is better software and hardware. But in general software and hardware are acceptable and enough for most of our daily analyses. The finite element calculations may present errors of around 10% or more due to lack of quality and proper input on the finite element model. This error can be associated with both the discretization of the geometry as well as discretization of the solution. There is no doubt that finite-element analysis has a big role in development projects. One reason is that it helps reduce expensive prototype testing and design cycles. This technology is also seen as another way to improve product integrity. Despite FEA's reputation for accurately pinpointing weak spots in designs, a few faulty assumptions and organizational flaws may render analysis work unusable. For instance, some companies treat FEA as an extension to CAD packages. In fact, it requires specialized training all its own. In this presentation we summarize some of these basic mistakes and some thoughts on how improve a lot the accuracy of the analysis results. What could possibly go wrong? Improper boundary conditions may lead to wrong results and decrease the confidence on your numerical simulation. The load types must reflect as much as possible the actual physical problem. And the way of its application should be engineering judged according to the project that is being analyzed. The conclusion is to increase confidence in numerical simulation there is a need to train and instruct properly the engineers regarding software, hardware and the most important about finite element method in theory and in practice. Rodrygo Zanoni Tower Finite Element Specialist Engineer Siemens Gamesa Renewable Energy / Brunel Netherlands Rotterdam Airportbaan 19 3045 AN Rotterdam Netherlands Mobile: +31 0 633586768 mailto:rodrygo.zanoni.ext@siemens.com
abstract id	UK18-5