

## DEMOCRATIZATION USING SIMULATION APPS: WADING THROUGH THE HYPE! WHERE DO WE GO FROM HERE?

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### KEYWORDS

Simulation Apps, Simulation Process Automation, Abstract Modeling, Democratization of CAE, Template Validation

### ABSTRACT

During the last two to three years, a number of manufacturing and research organizations have been successfully implementing a solution that puts simulation, both simple and complex, *safely and robustly* in the hands of all those that need it, and in particular, those that do not have any expertise in the underlying CAE tools. They are demonstrating, beyond reasonable doubt, that the intricate confluence of simple-to-use, solution-specific web applications that speak the language of the user, called *Simulation Apps*, “lights-out” automation that works across all design changes, and automated design space exploration tools, supported by the “elastic and infinite” computing capabilities now available on The Cloud, facilitate the global and safe deployment of complex simulations to anyone who needs it.

In this presentation, Mr. Panthaki will review the real progress that has been made, while separating the hype from the reality. He will summarize the results from many end-user experiments, reported in the 2015 NAFEMS webinar series, *Democratization of CAE*, in presentations made during this NAFEMS conference, and elsewhere, to support the conclusion that the technical achievements are real and that the benefits reaped by the end-users are significant. Mr. Panthaki will address questions such as:

- Why has it become critical that we expand the use of simulation beyond the “experts”?
- What are the dangers of putting complex simulation in the hands of those who do not understand the intricacies and subtleties of

the underlying simulation software? What is required to make Simulation Apps safe and robust for the “non-experts”?

- What are the user characteristics of a successful Simulation App?
- What are the key ingredients that go into making a *useful and economically-feasible* Simulation App?

In conclusion, he will review the technical, business and cultural challenges that still must be overcome to more broadly bring complex simulation safely into the hands of non-experts – achieving an order of magnitude increase in the number of users of simulation software. Is this merely hype or a goal that is achievable over the next few years?