

2009 NASA (FERP) SYMPOSIUM-BIM BREAKOUT SESSION GUIDE

Tuesday, May 12 (3:30-5:30 p.m), Reid Auditorium, LaRC

Please read BIM definition and benefits below. Based on your experience and expertise, provide input for operational improvement Agency-wide utilizing BIM.

BIM Definition: Inspired by automotive and aerospace industry, Building Information Modeling (BIM) is the process of creating a built environment virtually before it is constructed physically. BIM is the use of multi-disciplinary performance models of all phases of real property development from assets management through master planning, design, construction, and operations and maintenance in support of NASA Mission and Vision. Elements of BIM models include, but are not limited to existing Agency data as well as models and templates for master planning, design, construction, energy management, cost, schedule, sustainability, and code compliance.

BIM Benefits: The benefits of this process include but are not limited to the following:

- Reduced up-front planning time using reusable design templates
- Improved design quality from early visualization between all project stakeholders
- More reliable cost estimating through use of automated quantity take off and cost estimating models
- More sustainable facilities through use of consistent campus and facility sustainability model
- Reduced schedule duration through use of pre-fabrication using building models (reported savings of 5-30%)
- Increased field productivity with cleaner, safer site and minimal on-site changes (1-10%)
- Faster turnover and commissioning
- Improved cost and schedule control, including reduced change orders to less than 1%
- Continuous improvement and measuring success

We can provide the following operational Improvements Agency-wide (by 2010, 2012, 2015)

Reducing time and cost; increase quality through:

- Creating of an Agency-wide network system vs individual set up at each Center
- Sharing resources and increasing productivity (software, tools, standards, and processes)
- Centralizing project data (Increasing accuracy and improving knowledge management)
- Automating systems (reduce production time and increase efficiency)
- Utilizing energy models in design of energy efficient facilities, sustainability models to ensure maximum possible LEED rating, laser scanning in efficient documentation of complex existing facilities, cost models for improved project management
- A/E selection criteria and baseline for Statement of Work document
- Model purpose-Model deliverables-Intellectual property
- Training
- Measuring success and continuous improvement
- Other?