

# IWSM MENSURA Conference Haarlem, the Netherlands Cost Estimating Challenges in the Future

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# A Cycle of Challenges





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## **Complex Analysis**

• How much will this project cost?

Range Estimate and Probability

Non-linear Dependencies

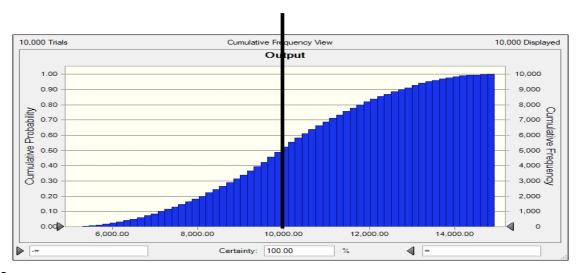
Knowns, Unknowns, Uncertainty...and Risk



### **Risk Perspective**

Cost Estimator

#### 50% Confidence Level



Project Manager







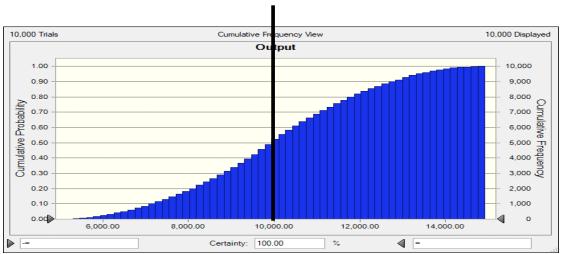


To a PM, raising the Est CL is Capitulation, not Mitigation

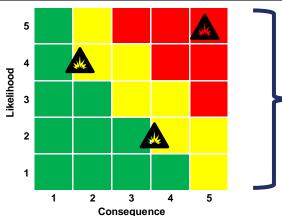
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#### **50% Confidence Level**



- How do we buy-down risk?
- Covering risk items with Est CL is same as just accepting risk



Mitigation Investment must have a positive Risk ROI



#### **Using Risk Analysis**

 Cost Estimators spend a lot of time performing sophisticated risk analysis, but...

Plays no roll in determining contract type

Plays no roll in determining an appropriate profit rate

Rarely used to quantify or even qualify a risk register



#### **Data Sources & Validity**

In the future, it will no longer be about lack of data

We will be awash in data

 Big Data from many sources could mean "normalization a thing of the past

How we decide validity, accuracy or purity is critical



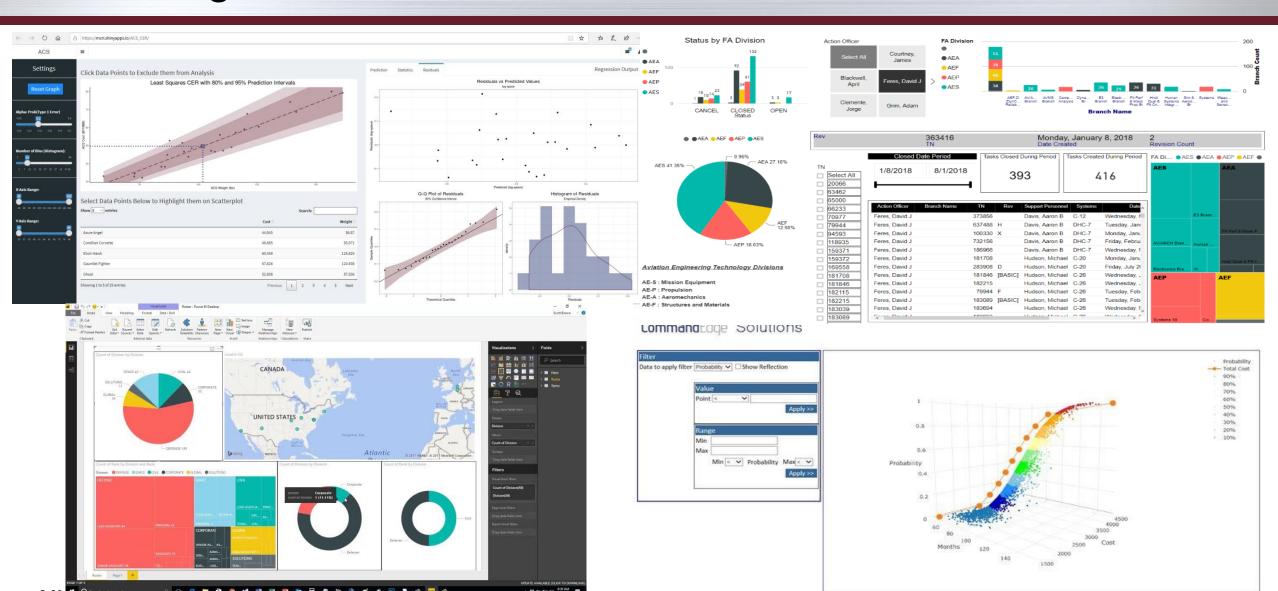
#### **Decision making tools**

Back to Challenge 1: We often dump raw information on Decision Makers

 We need to develop and utilize better analytics to provide the right answer – optimization or at least "approximization"

 Visual information is almost always more effective than tables of numbers

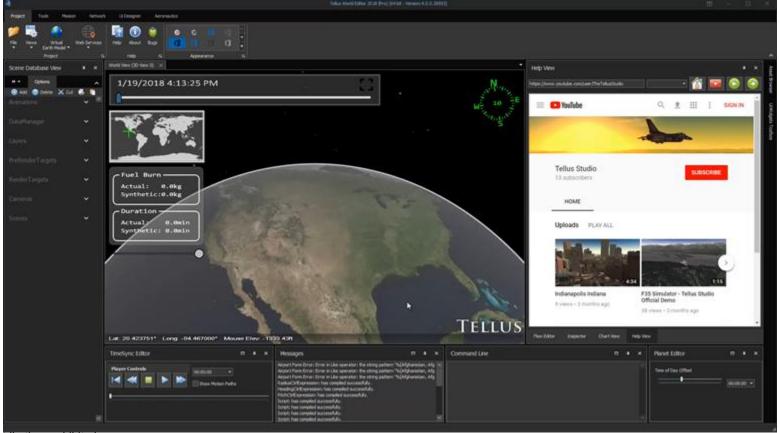






## Dynamic Estimating

Estimating interactive simulations are next frontier





#### **Education and Training**

 Competition for people with quantitative and analytic skills is likely to grow

• What will a Cost Estimator look like in the future; Where will they come from?

 Industry, government, consulting, and academia need to re-think our talent pipeline



#### Internationalization

Cost Estimating and Analysis is a worldwide profession

 The problems we solve are universal; the analytic methods are common; our approaches are too often parochial

Organizations like NESMA and ICEAA that cross borders, oceans and continents are critical to the health and growth of our profession

