

# GMGW What's Next?

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Pointwise

**1st AIAA Geometry and Mesh Generation Workshop**  
Denver, CO, USA  
3-4 June 2017

# Objectives vs. Outcomes

- **Generate committee meshes for HiLift**
  - **Grade = B**
  - Good: Meshes ran and converged without alteration.
  - Bad: Meshes could have been better suited for their particular purpose
- **Assess participant's meshes**
  - **Grade = B**
  - Good: Collected a broad range of data about the meshing process.
  - Bad: Data still more qualitative than quantitative
- **Correlate meshes with CFD results**
  - **Grade = I**

# In the near future...

- Update the HL-CRM geometry model in NX for use with future workshops
  - For ex, High Order 5 is using the HL-CRM as one of their meshing challenge cases.
- Encourage participants to rework their HL-CRM meshes with a bias toward best practices and away from the current gridding guidelines.
- Document and summarize all the results from GMGW-1 to serve as our reference against which progress can be measured.

# SciTech 2018 (Orlando, January)



- MVCE Invited Session
  - Lessons Learned from Generating Baseline Meshes for 3rd AIAA High Lift Prediction Workshop
- MVCE Special Session
  - Lessons Learned from 1st Geometry and Mesh Generation Workshop and Path Forward
- MVCE Regular Sessions

# Other Events

- 26<sup>th</sup> IMR
  - 26<sup>th</sup> International Meshing Roundtable
  - 18-21 September 2017 (Barcelona)
  - <http://www.imr.sandia.gov/26imr/index.html>
  - Meshing Contest
- HiOCFD5 (aka HOW5)
  - 5<sup>th</sup> International Workshop on High Order CFD Methods
  - 6-7 January 2018 (Orlando, prior to SciTech)
  - <https://how5.cenaero.be/>

# GMGW-1 Workshop Feedback

- Changes to generation and delivery of committee-supplied meshes?
- Was the co-location of GMGW-1 and HiLiftPW-3 beneficial? Is there another format for the workshop that would have been better?
- Is there another AIAA CFD workshop that could work closely with GMGW? If yes, which one(s)?

# GMGW-1 Workshop Feedback

- Rate the benefit to you on a 1-5 scale.
  - Participant presentations
  - Joint opening/closing sessions with HiLiftPW.
  - Presentations by GMGW committee
  - Birds of a Feather sessions
- Was the duration of the workshop sufficient?  
Too long? Too short?
- What do you suggest we do differently for GMGW-2?

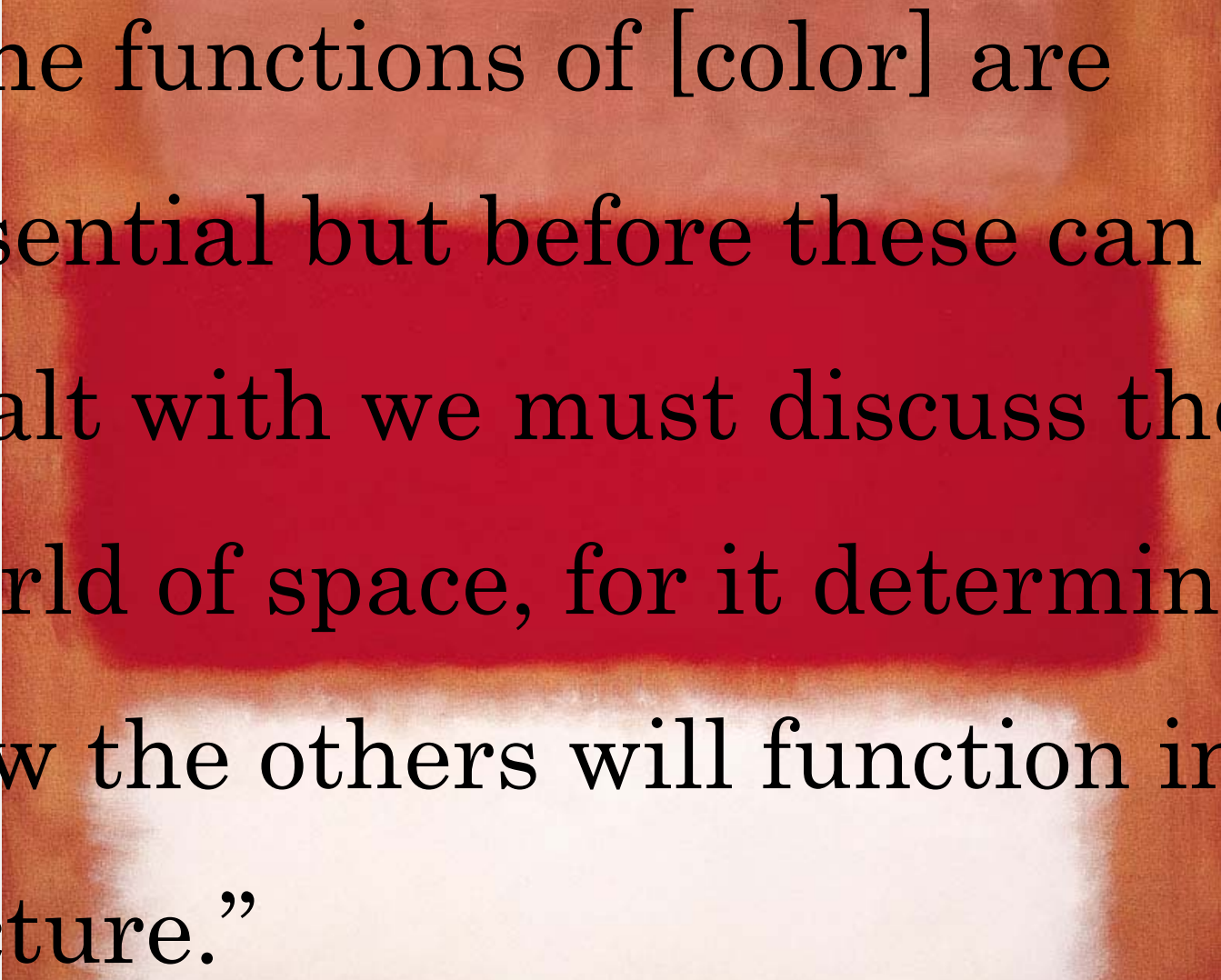
# GMGW-1 Workshop Feedback





## GMGW-2

- MVCE is committed to GMGW-2.
- We would appreciate the opportunity to collaborate on HiLiftPW-4.
- Multiple Cases
  - HL-CRM (as built, wind tunnel model)
  - HL-CRM (from HiLiftPW-3)
  - Something smaller/simpler
- Design cases to allow mesh-CFD correlations to be attempted (and hopefully made).
- Increase rigor of process measurements.



“The functions of [color] are essential but before these can be dealt with we must discuss the world of space, for it determines how the others will function in the picture.”

Christopher Rothko on his father's paintings.