

The Integrated Data Model: Design, Refine, Build

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It's no secret that the greatest potential for performance improvements at the lowest cost can be achieved in a project's early stages. In those stages, building information is created by many collaborators with different areas of focus, piecing together diverse bits of information into a cohesive whole. How can BIM be useful in this broad, iterative, environment of partially defined objectives, and constantly changing criteria?

Our presentation will showcase SOM's Integrated Data-Modeling process for early design collaboration between Structural Engineering, the Sustainable Engineering Studio, and Architectural teams. As one example, a project's Enclosure and Core design teams each works in their tool of choice and cooperatively develop a single information model. The Sustainable Engineering Studio's software instantly reads the model, and the team analyzes the design idea for near-immediate feedback. By accessing the same model, the Structural Engineers can impart their knowledge to the model, simultaneously informing and enriching the design. Together, the entire team collaborates to arrive at the best solution at the earliest stages possible.

Integrated data modeling process:

Utilize change as an opportunity

Embed design intent into the model rather than just representing it

Facilitate single source information

Utilized the master model to simplify data management

Use tools for what they are best at

Revit is a solid documentation tool; Grasshopper is intuitive when defining geometry

Ensure tight model integration

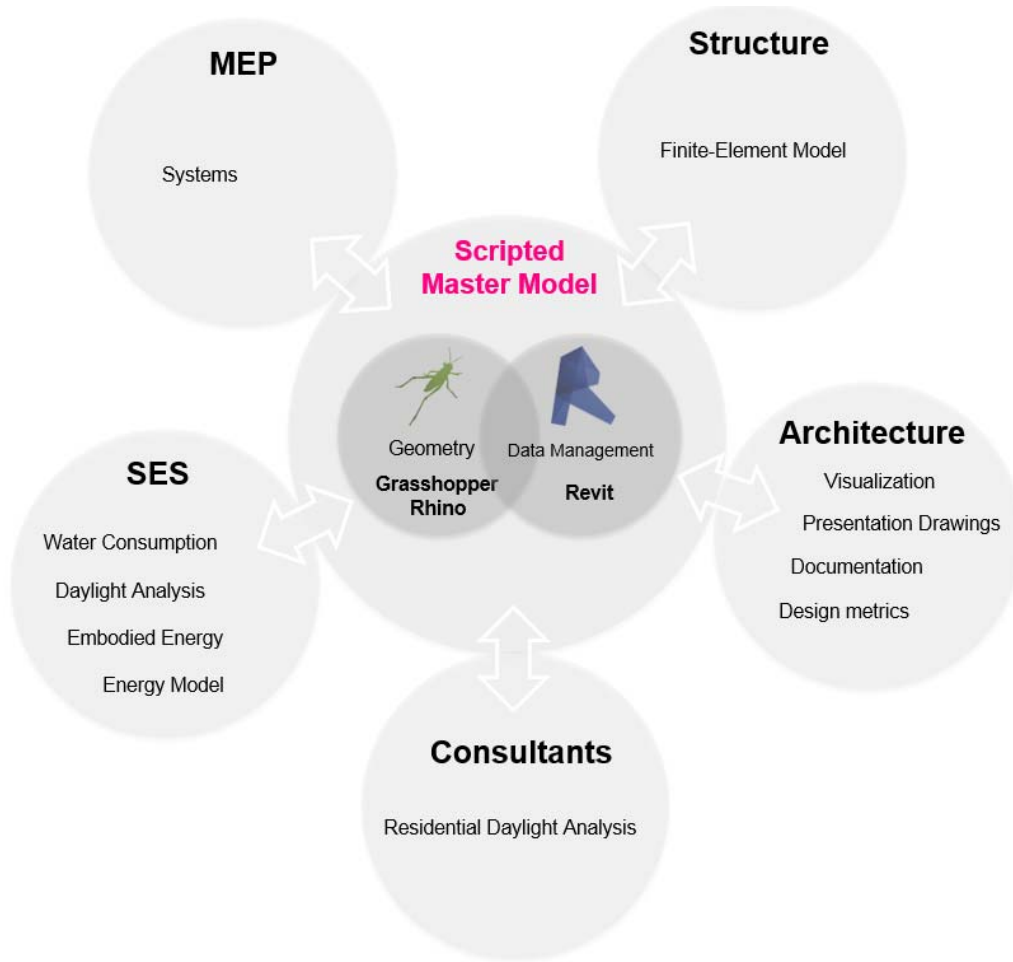
Rather than manually replicate data, establish robust data exchange routines

Goals of the integrated data modeling process:

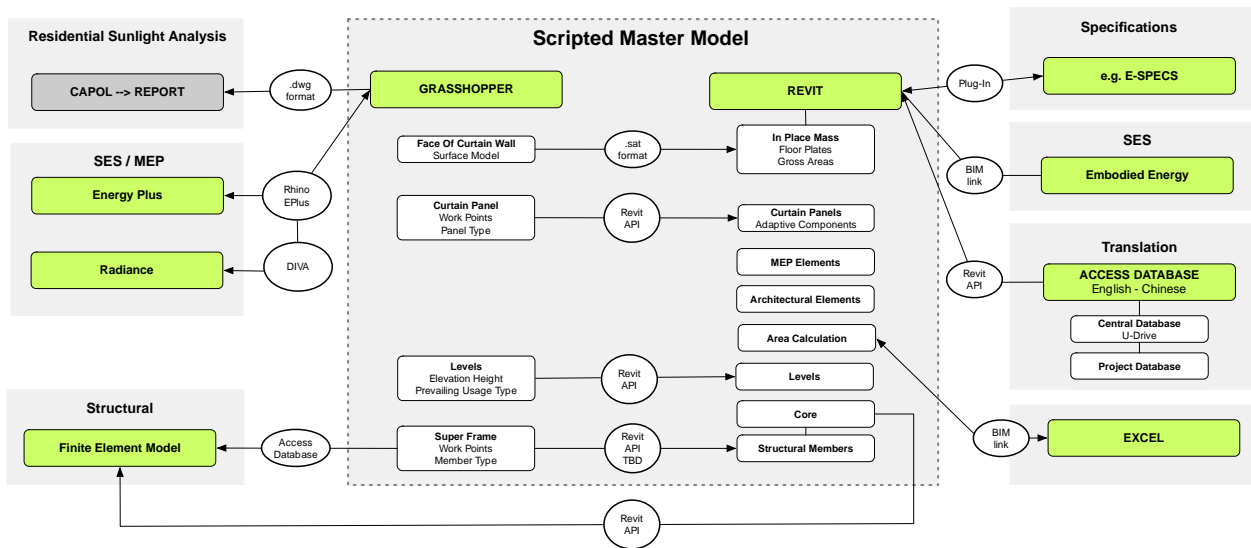
Reduced re-work efforts

Simplify coordination

Facilitate deeper analysis



A model for team collaboration



Integrated Model diagram