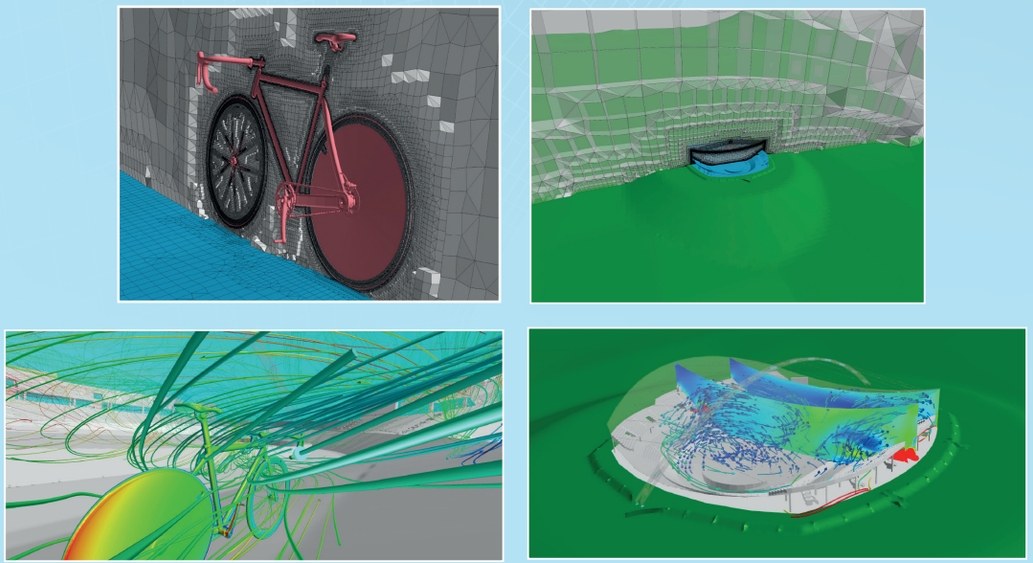
CAMBRIDGE
FLOW SOLUTIONS
Proprietary and customised CFD

BOXERmesh
V3.9

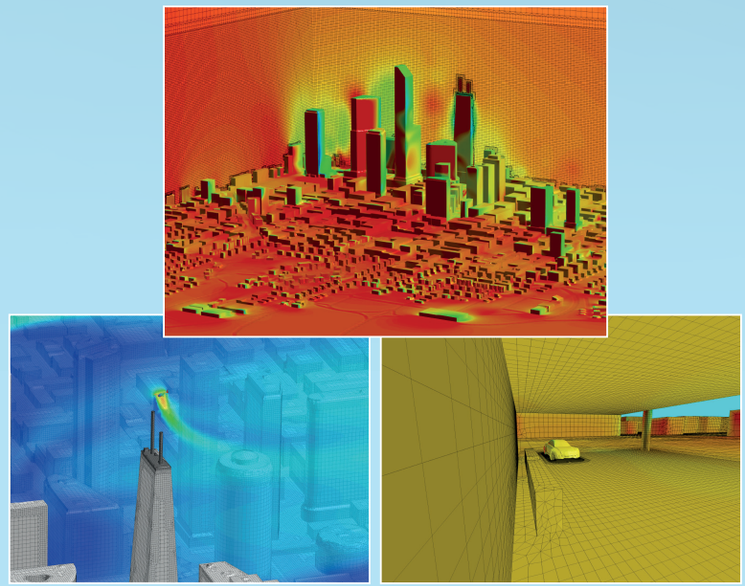
Meshing Capability

- Fully automatic, parallel scalable, highly suitable for GigaCell meshes
- Automatic viscous layer extrusion
- Complex, multi-source CAD fused into a single domain
- Digital (voxel) geometry representation
- No CAD repair required
- Rapid, robust meshing at huge range of length scales
- Solver quality aware meshing metrics
- Wide range of CAD formats supported
- Wide range of solver formats supported
- Suitable for laptop, desktop, local cluster, supercomputer and cloud platforms

Bicycle in a velodrome in a landscape example.
Mesh cell sizes range from 1mm to 100 meters



Helicopter and car in cityscape example.
84 million cells, time to mesh 250 minutes



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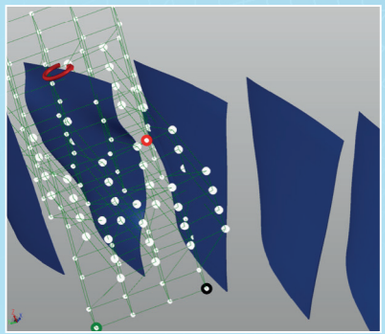
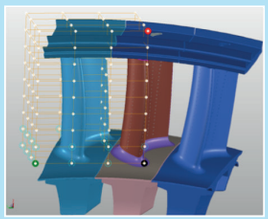
BOXERgeom
V3.9

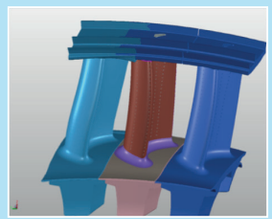
Geometry Manipulation Capability

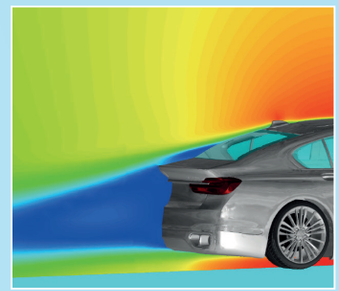
- FFD smoothly and continuously deforms geometry with very flexible degrees of freedom
- For optimisation of shape, to model e.g. damage or to match 'manufactured' to 'designed'
- Built on a digital geometry kernel (voxel rasterization)
- Unique capability combining Spatial Occupancy with a Level-set representation of geometry
- Incredible power to model wear, erosion, deposition, degradation
- Supports time-varying geometries, changes between operating states (e.g. hot-cold)
- Can seamlessly morph geometry using genetic algorithms between end states to create unique analysis candidates

FFD transform examples

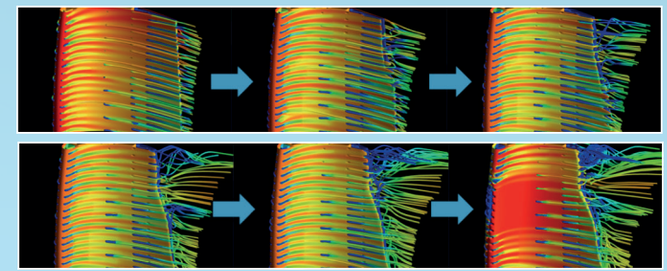


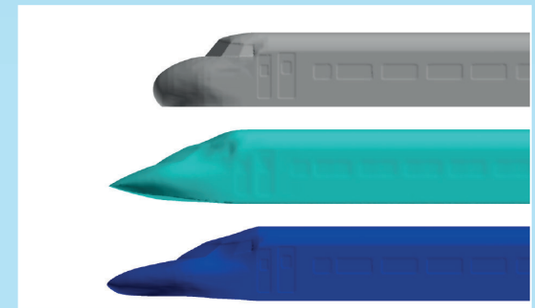






Cooled High pressure turbine progressive burn though damage





Progressive shape morphing of high speed train locomotive

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