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
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**