Swiss Re Building (30 St Mary Axe)

Bentley Tas Enabled:

- Computational Fluid Dynamics (CFD) and Dynamic Thermal Modeling (DTM)
- Energy modeling
- Natural ventilation design
- Air flow analysis
- Building code compliance
- Study interaction with surrounding buildings via wind tunnel data

Results:

- Successful mixed mode operation, where the building would be naturally ventilated for a significant part of the year
- Multiple design iterations to assess occupant comfort
- Accurate daylighting studies of lightwells
- Ability to study C02 impact of design alternatives
- The building consumes half the power a similar tower would typically consume

Project Facts:

- Project Location: London, UK
- 591’ (180m) tall, containing 500k sf of office space on 40 floors
- Britain’s first mixed mode high-rise office building
- Consultant: Hilson Moran Partnership
- Hilson Moran’s role: provide an Environmentally Progressive building while maintaining Institutional Standards and market value
- Construction completed December 2003

Key Design Elements:

- Unique cladding design
- Mixed-mode ventilation
- Optimized building services
- Gaps in each floor create six “chimney” shafts that serve as a natural ventilation system for the entire building