Smoke or gas release in quantities exceeding regulatory requirements can become dangerous to users of a space. Effective design of smoke management and smoke control systems for large and geometrically complex spaces (atria, subway stations, underground tunnels, etc.) can be paramount in reducing public safety risks. In addition, with air pollution becoming a prominent environmental focus point there is increased importance in early development of schemes that encourage the dispersion of pollutants.

BMT Fluid Mechanics has extensive expertise and experience in the modelling of fire, pollution, gas and smoke movement in the built environment and has a proven track record in identifying dispersion issues in the early stages of design. BMT uses state-of-the-art industry recognized computational and physical modelling tools to undertake the analysis of flow dispersion, at all scales, while working closely with designers and fire engineers. Using knowledge of local code requirements BMT is able to deliver solutions that satisfy the requirements of regulatory authorities and are practical to implement in design.

**CAPABILITIES**
- Computational fluid dynamics (CFD)
- Code / handbook assessments
- Wind tunnel testing
- Desk studies

**CONSULTANCY SERVICES**
- Emission release assessment
- Pollution dispersion modelling
- Gas dilution/propagation assessment
- Fire and smoke release analysis
- Fire system validation
- Parametric ventilation systems analysis
- Dispersion pattern assessment