Towards the remote measurement of air pollution emissions in UK ports

Air quality challenge - Can we remotely detect emissions from ships at ports?

Solution – Integration of low cost sensor package in a buoy

STFC Sensor package
- Optical Particle Counter
- H$_2$S + SO$_2$
- Mass flow meter
- SD-printed housing

JET ENG buoy
- JET Engineering Systems Solutions – “5G at Sea”
- Floating buoy platform with high-bandwidth networks
- Connectivity, real-time data capture, GPS location

Uni Of York’s mobile laboratory and data analysis
- Wide-scale and long-term ship emission data for SO$_2$, NOx and PM would provide a unique dataset for:
  - Regulation compliance
  - Effect on atmosphere

Challenge - Integration and ruggedisation to withstand maritime environment

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