

## What is the role of satellites in meeting the OGMP 2.0 reporting requirements?

Satellites hold the potential to be a game changer for methane emission quantification and mitigation. Technology is evolving rapidly thanks to improvements in measurement precision and the reduction of satellite instrument detection thresholds. IMEO is already integrating data from several satellite operators as they contribute to identifying methane-intense areas, or hot-spots, and large point sources. Upcoming satellites will enable accurate and complete quantification of the total magnitude of emissions for the majority of oil and gas production regions.

Current satellite instruments classified as point source mappers are able to identify and quantify large emission events, but they are not capable of providing the data necessary to accurately estimate annual emissions at a specific site unless it has large continuous emissions, well above the detection limit under ideal conditions. Such situations are rare and account for only a small fraction of total emissions and an even smaller proportion of all sites. For a company to achieve OGMP2.0 level 5 reporting, satellites alone cannot be used as site-level technology—unless the emissions from a site are constantly above the detection threshold of current satellites (i.e., if the satellite doesn't detect emissions, it is not appropriate to assume emissions for that facility are zero (the majority of basin emissions can be expected to fall into this category, sites with emissions below the point source detection limit of space-based detectors).

Source-level quantification needs to be reconciled with appropriate site-level measurements performed with the adequate, fit for purpose technologies that consider:

- appropriate detection limits and
- measurements with sufficient frequency to characterize temporal variation in emissions.

Satellite observations from individual point sources can be part of a multi-tiered monitoring approach that provides useful information to the OGMP2.0 reconciliation process—however, they are insufficient as a single technology for site-level measurements. The operational understanding of an asset combined with level 5 reporting is essential to drive change and to develop effective mitigation strategies.