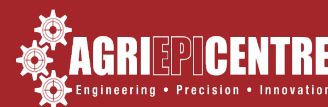


Mirico's Orion[®]



The agricultural sector is a significant contributor of greenhouse gas emissions worldwide, with the IPCC estimating that agriculture and land use are responsible for 21% of all greenhouse emissions, and with 52% of nitrous oxide emissions coming from the sector. To help understand exactly where and how these greenhouse gases are emitted during agricultural processes, reliable measurement methods are needed. As a powerful greenhouse gas with 84 times the Global Warming Potential (GWP) of carbon dioxide, methane (CH₄) needs to be accurately monitored, and its emission response to increased temperature needs to be quantified.

Mirico's Orion[®] CH₄ technology has been developed to monitor methane emissions on a continuous basis across a large area, in all weathers. At the heart of all Mirico products is a revolutionary new technology- Laser Dispersion Spectroscopy (LDS). Whereas traditional optical sensing systems measure the intensity of returned light, LDS is measuring the change in frequency of the returned light. The technology provides real-time monitoring of emissions, operating specifically in the mid infra-red spectral region and enables the collection and interpretation of emissions data in all weather conditions. From this data users are able to gain insights based on accurate continuous reporting, even in fog, rain, snow and particulate affected environments. The Mirico Orion[®] is able to carry out fugitive emissions monitoring, biomethane emissions monitoring, greenhouse gas analysis, and agricultural gas monitoring.

Agri-EPI has invested in Mirico's Orion[®] methane measurement system and will be using it in funded project work at its state-of-the-art South West Dairy Development Centre (SWDDC) in Somerset, which aims to offer a fresh vision for sustainable UK milk production. Our unique version of this sensor, including bespoke additions to the Mirico software suite, will be available for research use at SWDDC and can be used for trials such as outdoor and indoor methane monitoring, feed trials, herbal leys trials and ground truthing of novel sensors and monitoring methods. For information on renting out our technical assets please contact team@agri-epicentre.com.

Key benefits

Compared with conventional methods of monitoring methane and ammonia concentrations, Mirico's Laser Dispersion Spectroscopy technology offers:

- Accurate, precise and reliable measurements
- Consistent performance in adverse weather conditions (rain, fog, snow, dust)
- Large area coverage with simple, robust equipment
- Autonomous and continuous monitoring
- Real time, reproducible data for more meaningful analysis

