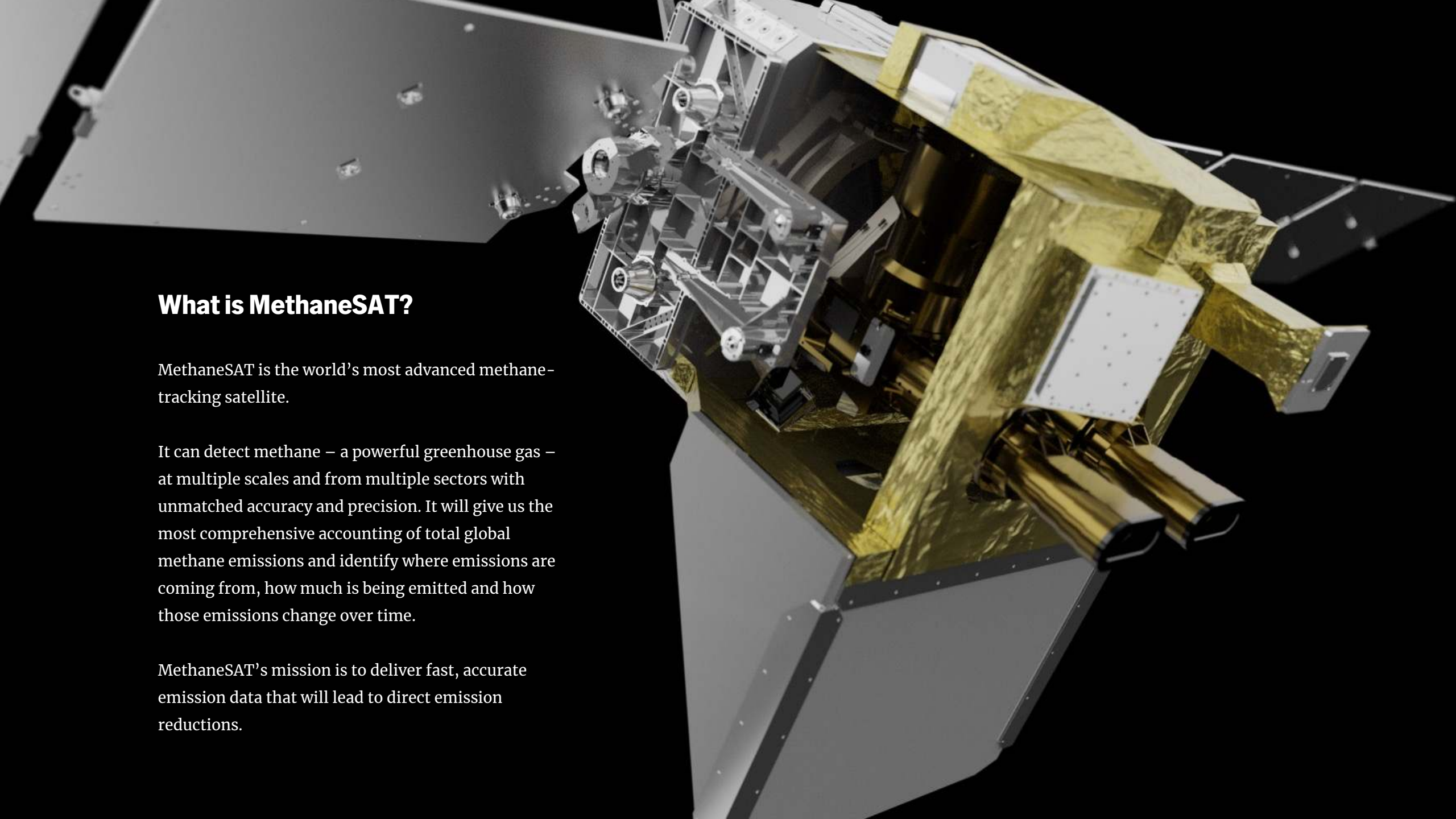
FREQUENTLY ASKED QUESTIONS



What is MethaneSAT?

MethaneSAT is the world's most advanced methane-tracking satellite.

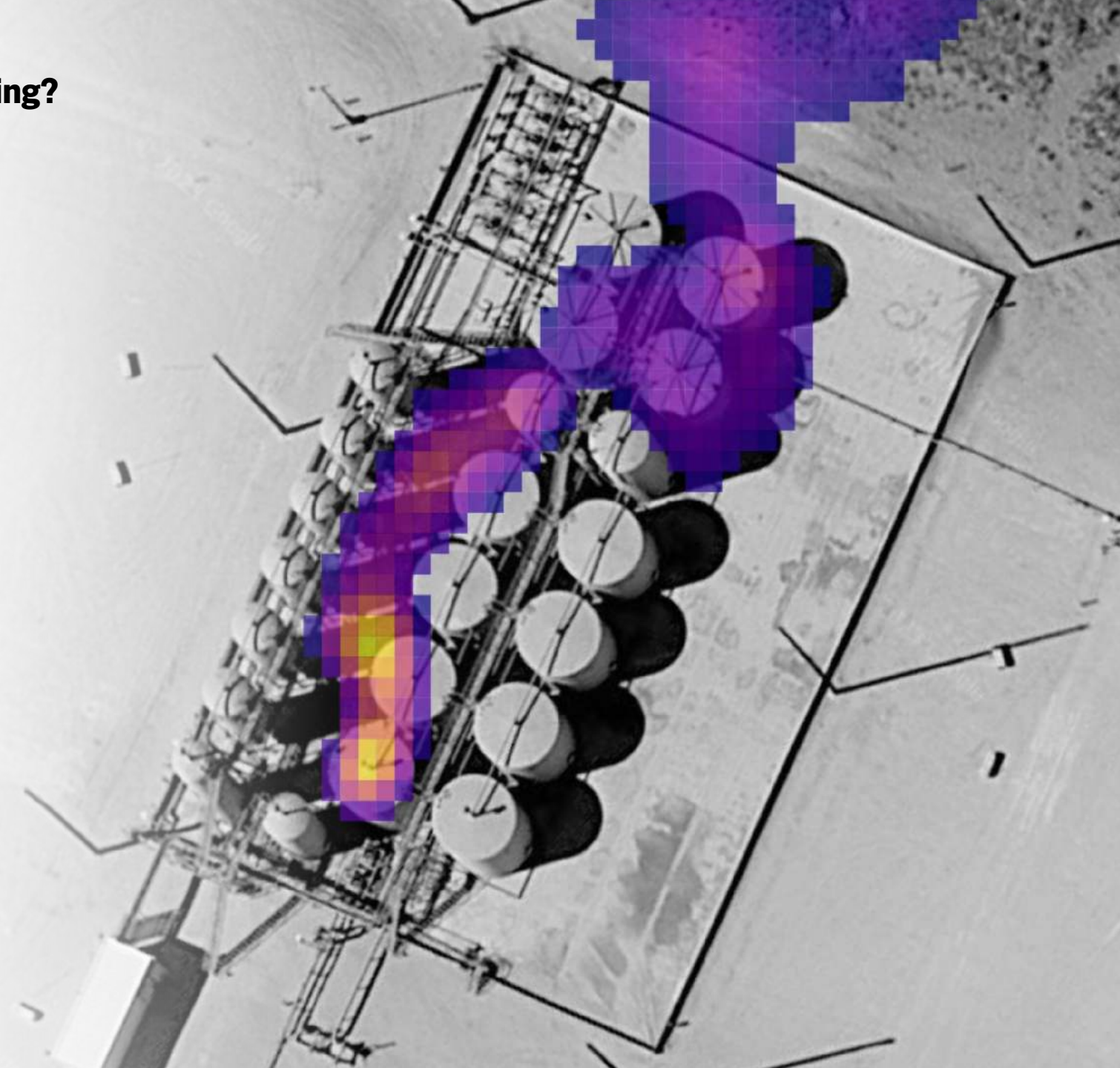
It can detect methane – a powerful greenhouse gas – at multiple scales and from multiple sectors with unmatched accuracy and precision. It will give us the most comprehensive accounting of total global methane emissions and identify where emissions are coming from, how much is being emitted and how those emissions change over time.

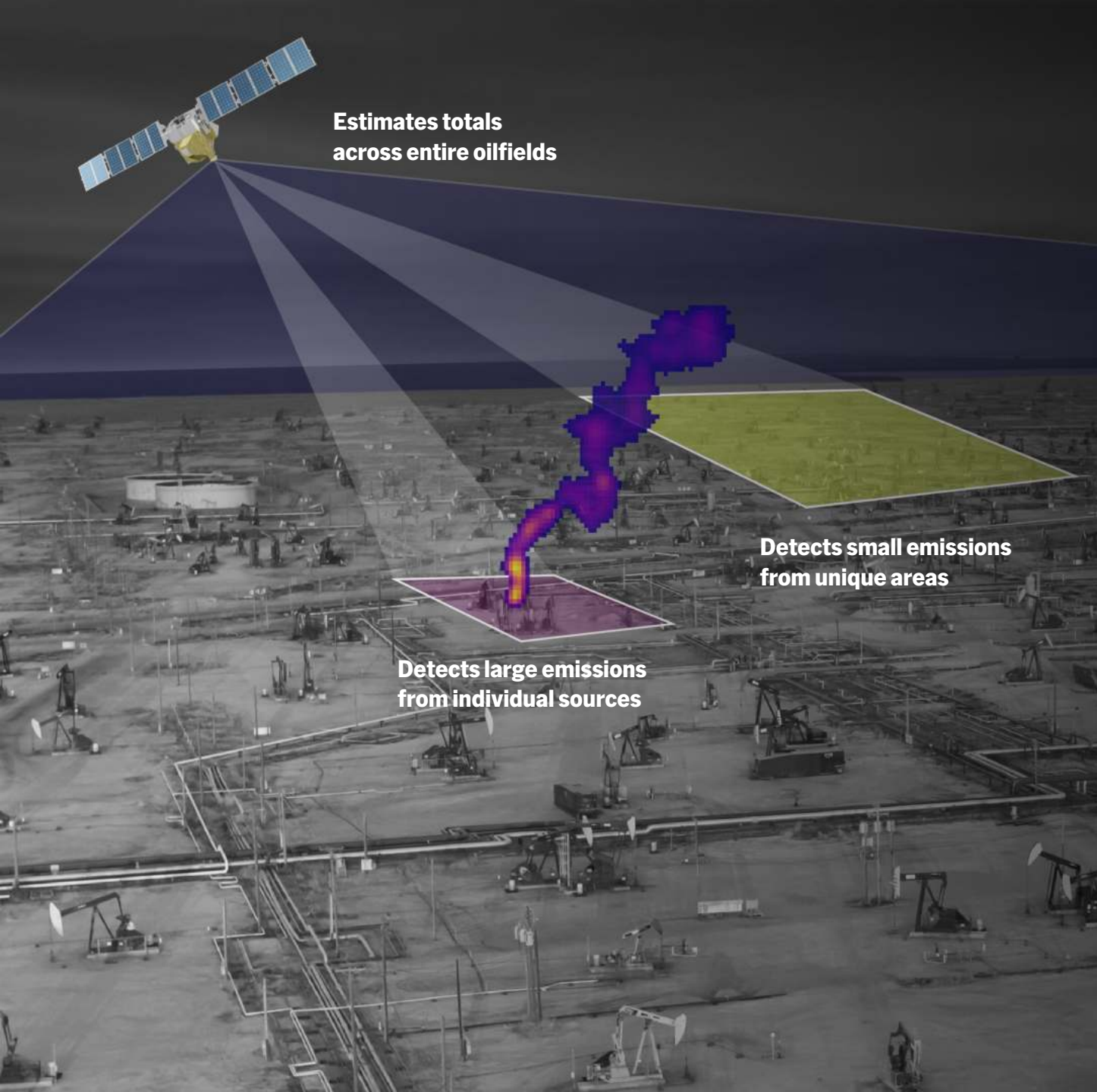
MethaneSAT's mission is to deliver fast, accurate emission data that will lead to direct emission reductions.

How will MethaneSAT combat global warming?

There are many use cases for MethaneSAT's data:

- Oil and gas companies can use the data to more accurately quantify their emissions, improve their operations and reduce emissions.
- Environmental agencies can use the data to track emission reduction efforts and enforce and improve methane regulations.
- Natural gas consumers can use the data to compare sellers' climate performance and source cleaner gas.
- Governments can use the data to track climate progress.
- Financial institutions can use the data to standardize methane performance and prioritize climate-friendly investments.
- The scientific and research community can use the data and compare with other datasets or to combine and build new datasets, methodologies, and workflows that can advance scientific understanding of methane.





What kind of data will be collected?

MethaneSAT will be able to detect methane emissions from multiple sectors, including from oil and gas, coal mines, landfills and agriculture.

MethaneSAT will track methane emissions at three different scales, each serving a unique purpose that can lead to climate solutions.

- It will measure methane emissions from high-emitting point sources.
- It will measure aggregate methane emissions from smaller, diffuse sources within a square kilometer area. These smaller emissions, when viewed as a whole, make up the majority of methane emissions from the oil and gas sector.
- It will measure methane levels from entire regions/countries/oilfields.

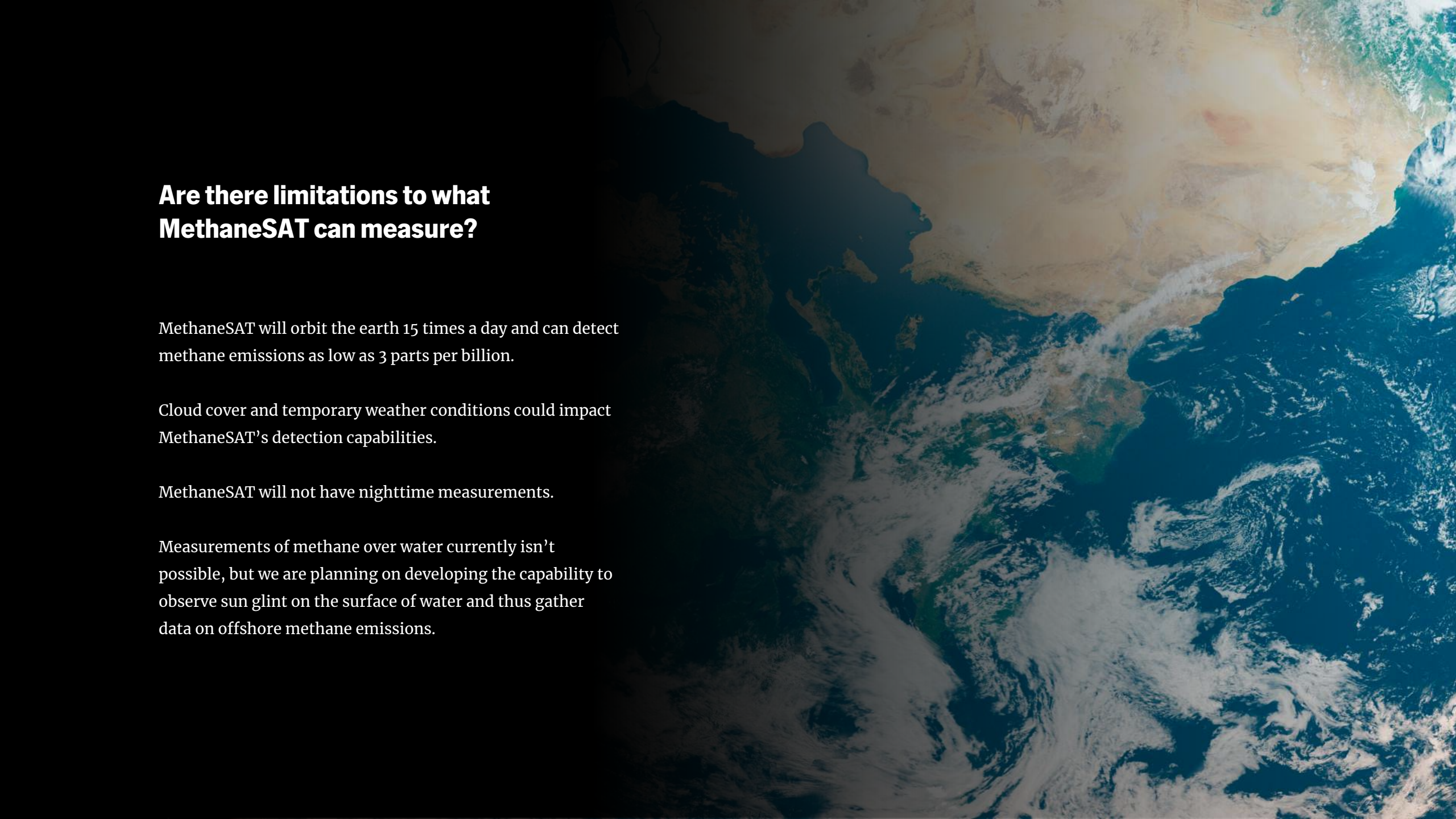
Are there limitations to what MethaneSAT can measure?

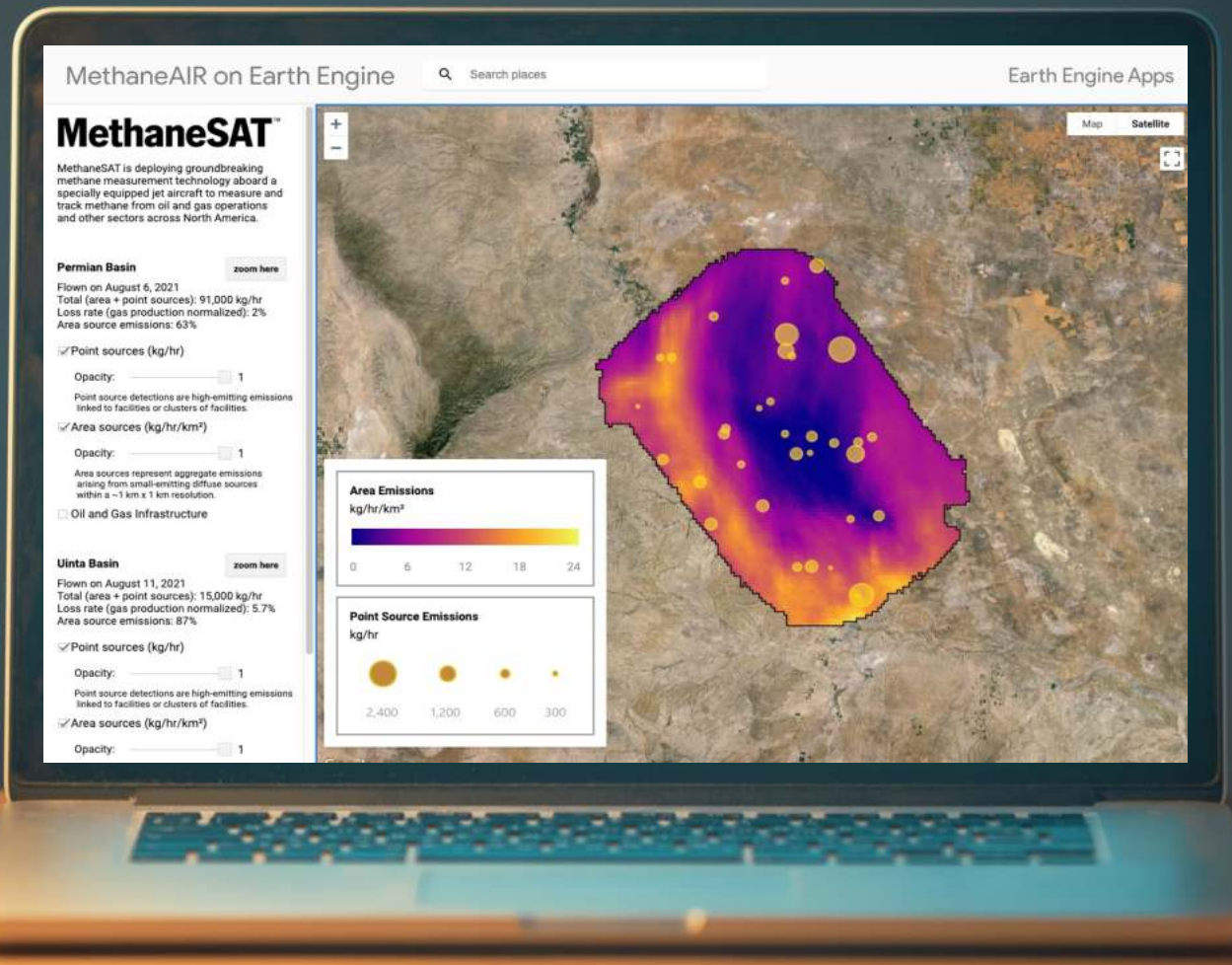
MethaneSAT will orbit the earth 15 times a day and can detect methane emissions as low as 3 parts per billion.

Cloud cover and temporary weather conditions could impact MethaneSAT's detection capabilities.

MethaneSAT will not have nighttime measurements.

Measurements of methane over water currently isn't possible, but we are planning on developing the capability to observe sun glint on the surface of water and thus gather data on offshore methane emissions.





How can I access MethaneSAT data?

MethaneSAT data will be free and available through an online portal.

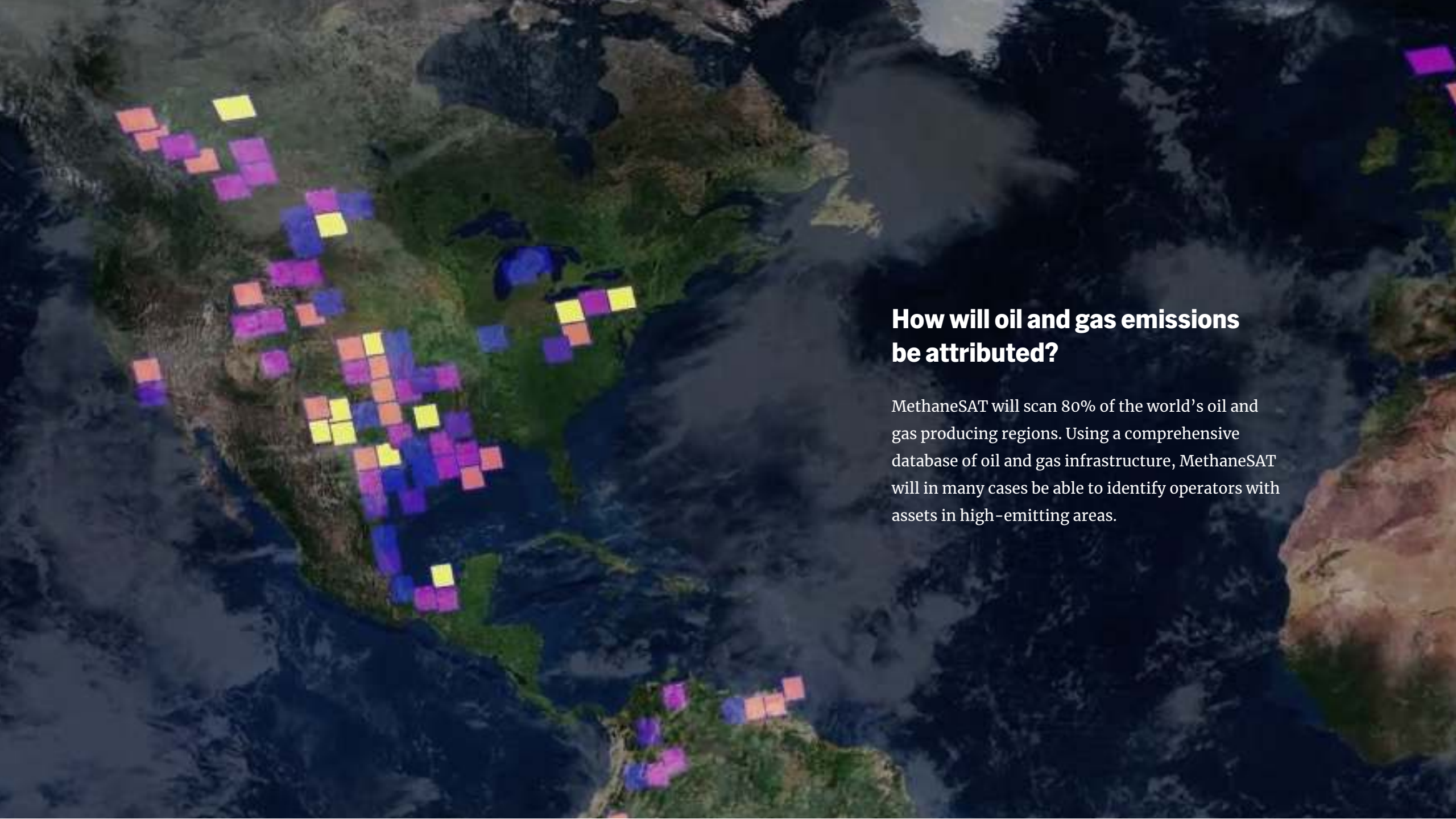
Researchers, nonprofits and academic institutions will also be able to use the data on Google Earth Engine for free.

Information about licensing and pricing for commercial entities will be available later.

How often will new data be available?

Initial images will be released within six months after launch (expected Summer 2024).

By early 2025, we expect to be fully operational, processing 30 targets per day and routinely releasing data on our web portal within weeks of observation.



How will oil and gas emissions be attributed?

MethaneSAT will scan 80% of the world's oil and gas producing regions. Using a comprehensive database of oil and gas infrastructure, MethaneSAT will in many cases be able to identify operators with assets in high-emitting areas.

Who developed MethaneSAT?

MethaneSAT is the only satellite to be developed by a nonprofit environmental organization and includes a global team of experts in remote sensing, astrophysics, methane detection and data.

The partners that helped build, launch and manage MethaneSAT operations includes:

- BAE Systems
- Blue Canyon Technologies
- Environmental Defense Fund
- Google
- Harvard School of Engineering and Applied Sciences
- Harvard Smithsonian Center for Astrophysics
- IO Aerospace
- New Zealand Space Agency
- Rocket Lab
- SpaceX

How does this satellite compare with others?

MethaneSAT is a critical complement to, not a substitute for, other satellites.

Other satellites can provide high-resolution data for specific, pre-targeted sites. These are particularly helpful for facility owners who are trying to identify larger leaks from likely sources throughout their operation or monitoring priority areas prone to large emission events. But existing satellites do not capture the myriad smaller but pervasive leaks throughout the energy supply system and cannot calculate total emissions for an energy basin, region, country or the world.

Because MethaneSAT can precisely measure methane levels with high spatial resolution over wide areas, it will see and measure these smaller, area-source emissions, which can account for more than 80% of total emissions in many regions.

With the addition of MethaneSAT, the satellite ecosystem will provide the comprehensive emission data we need to drive global emission reduction efforts.

Global Mapping	Area Mapping	Local Mapping
Global & large-scale regions Large point sources	Area sources Point sources Sector-wide quantification	Point sources Facility level attribution

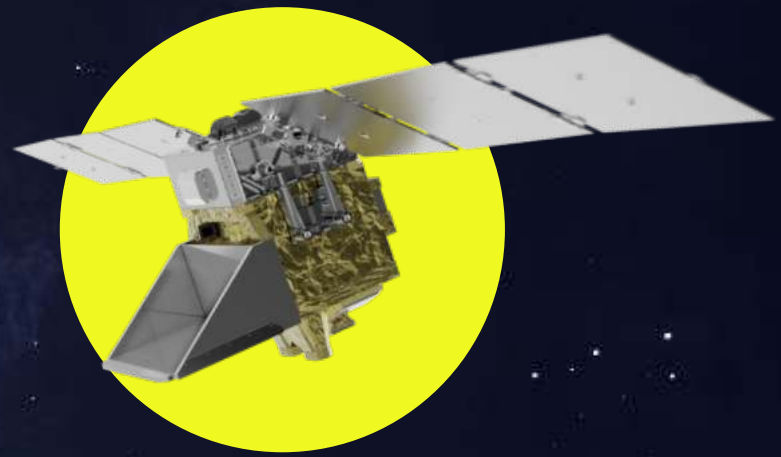
GHGSat
30m x 30m pixels
10 km swath

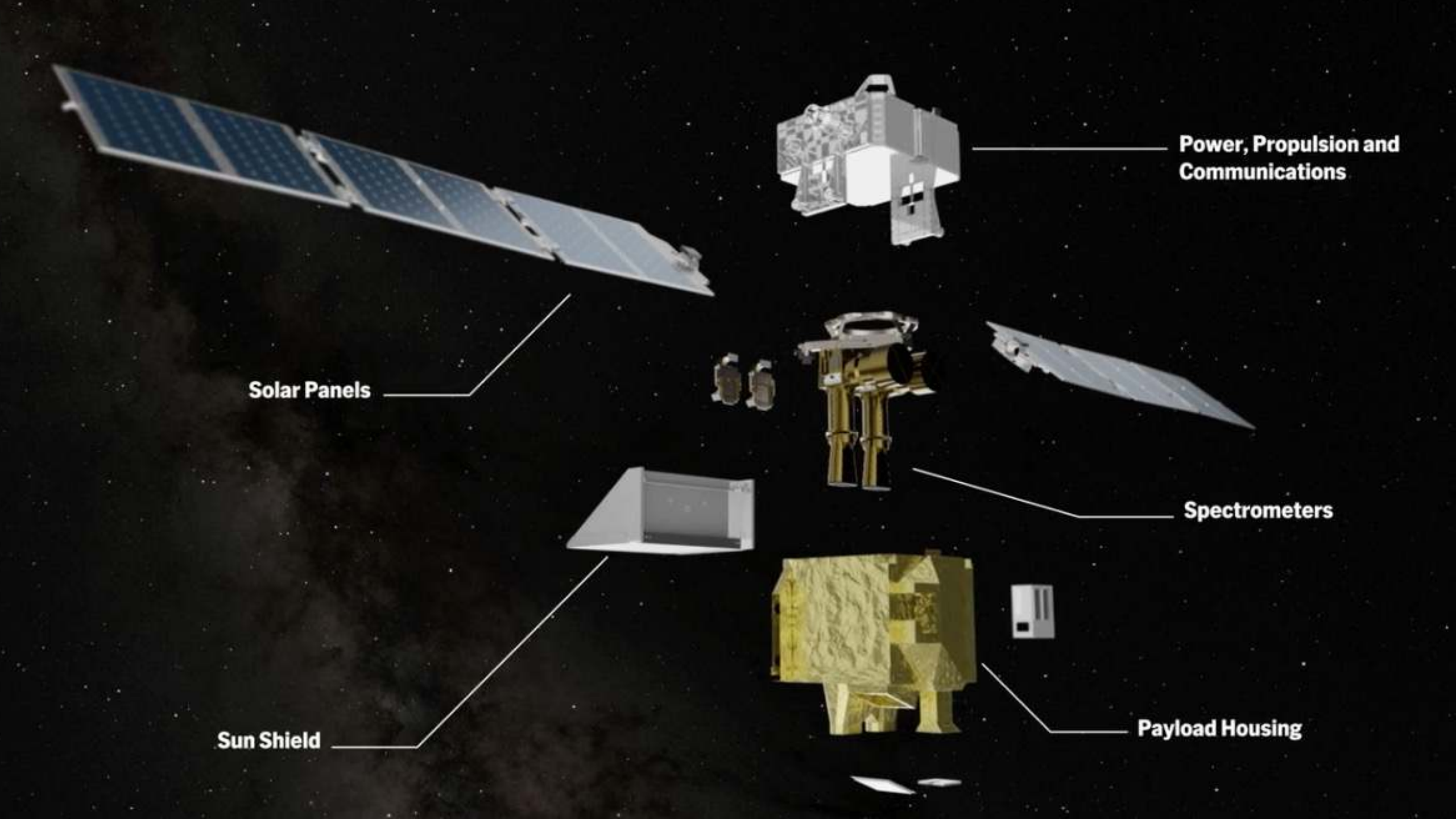
PRISMA
30m x 30m pixels
30 km swath

Carbon Mapper
30m x 30m pixels
18 km swath

TROPOMI
7,000m x 5,500m pixels
2,600 km swath

MethaneSAT
100 m x 400 m pixels
200 km swath




Power, Propulsion and Communications
Solar Panels
Spectrometers
Sun Shield
Payload Housing