

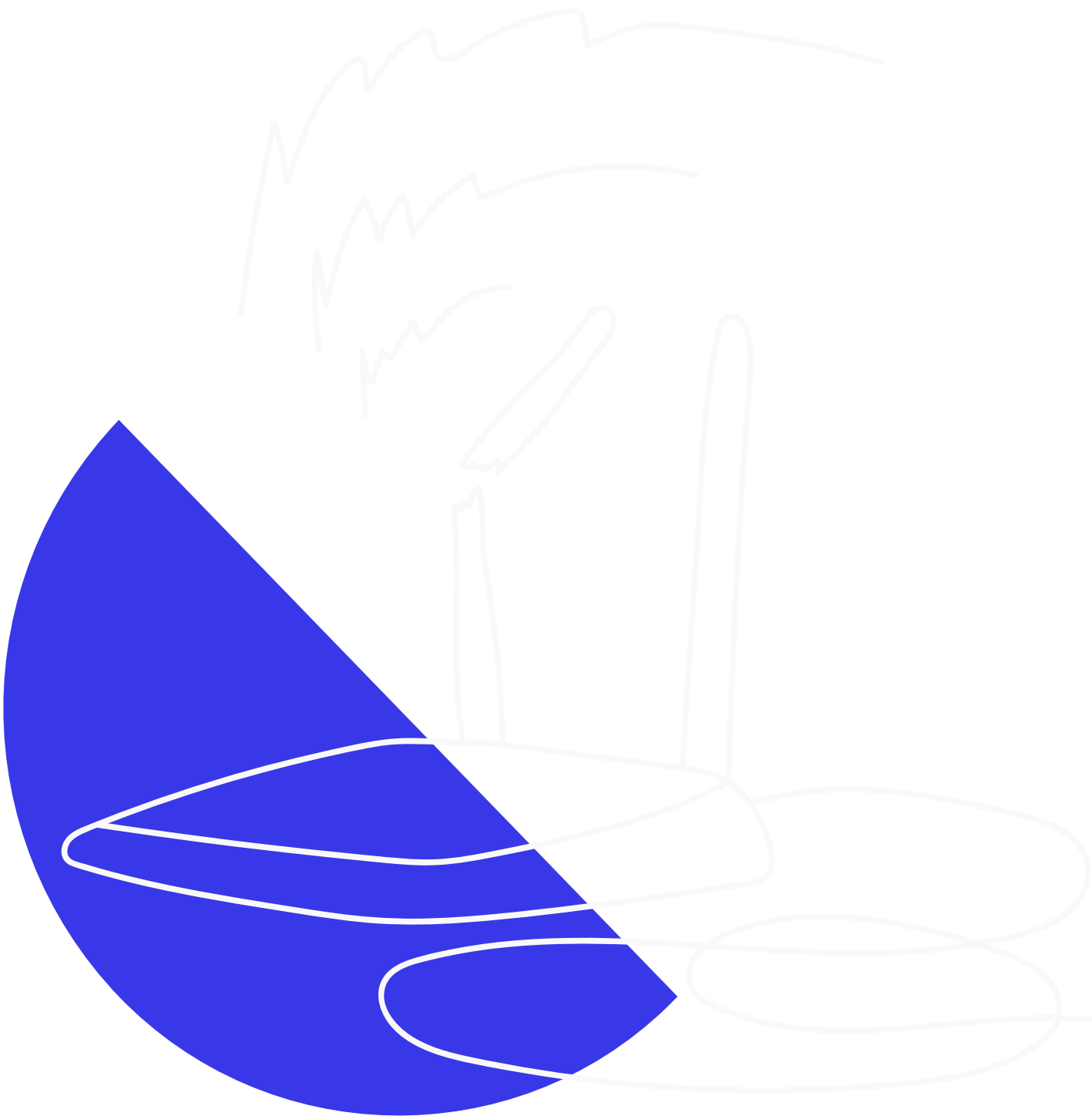


## LEOs, GEOs and MEOs: Learn the Pros and Cons of Each

### Description

# LEOs, GEOs and MEOs: Learn the Pros and Cons of Each

Technology in the connectivity space is evolving at a rapid pace, and it can be hard to keep up. Different satellite technologies like LEOs, GEOs and MEOs, for example, are better used in certain circumstances than others. Let's explore the satellite options below.





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## Satellite terminology explained

- ○ 1Low Earth Orbit (LEO) satellites
- 2Geostationary Earth Orbit/Geosynchronous Equatorial Orbit (GEO) satellites
- 3Medium Earth Orbit (MEO) satellites

- ## Compare your options

|   | LEO Satellites                        | GEO Satellites                  | MEO Satellites               |
|---|---------------------------------------|---------------------------------|------------------------------|
| <b>Altitude</b>   | 160-2,000 kilometres                  | 35,786 kilometres               | 2,000-35,786 kilometres      |
| <b>Round-trip latency</b>   | Low (around 20-50 ms)                 | High (around 500 ms)            | Moderate (around 100-150 ms) |
| <b>Coverage</b>   | Regional coverage with constellation  | Regional coverage (spot beam)   | Regional coverage            |
| <b>Constellation Size (number of satellites clustered together)</b> | Large (hundreds to thousands)         | Small (typically fewer than 10) | Moderate (tens to hundreds)  |
| <b>Deployment Cost</b>  | High                                  | Moderate to high                | Moderate to high             |
| <b>Data Transfer Rates</b>  | High                                  | High                            | High                         |
| <b>Reliability</b>  | Dependent on constellation management | Generally reliable              | Generally reliable           |

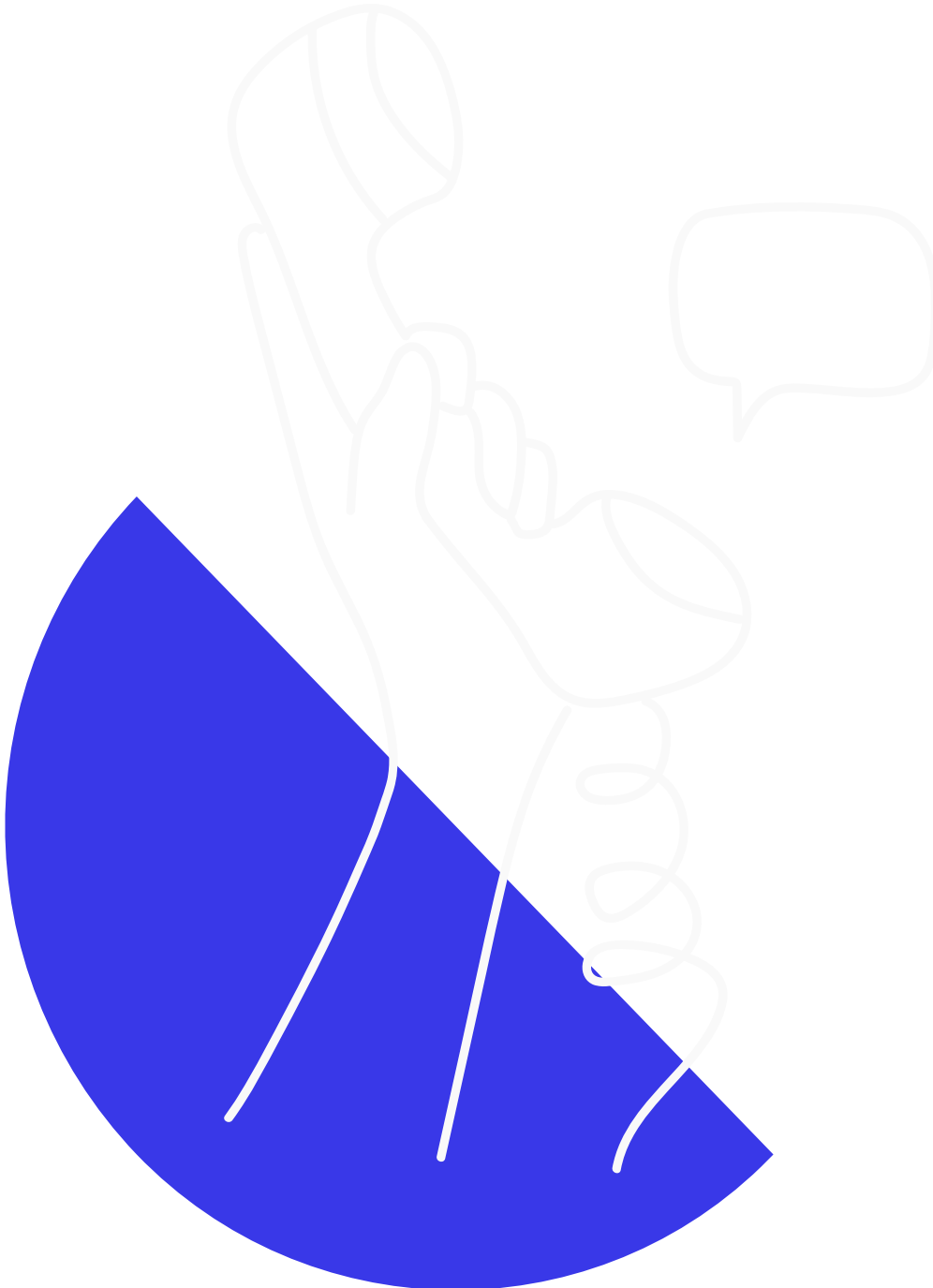


| <b>Better for phone or internet</b> | Suitable for both   | Suitable primarily for internet   | Suitable for both   |
|-------------------------------------|---|---|---|
| <b>Advantages</b>                   | <ul style="list-style-type: none"> <li>○ Low latency</li> <li>○ High data transfer rates</li> <li>○ Less susceptibility to atmospheric interference</li> </ul>                        | <ul style="list-style-type: none"> <li>○ Wide coverage</li> <li>○ Stable signal strength</li> <li>○ Fewer satellites required</li> </ul>            | <ul style="list-style-type: none"> <li>○ Balanced latency and coverage</li> <li>○ Relatively lower deployment cost</li> <li>○ Improved latency compared to GEO</li> </ul> |
| <b>Disadvantages</b>                | <ul style="list-style-type: none"> <li>○ High deployment cost</li> <li>○ Need for large constellation for continuous coverage</li> <li>○ Potential for signal interference</li> </ul> | <ul style="list-style-type: none"> <li>○ High latency</li> <li>○ Limited coverage area</li> <li>○ Signal degradation at higher latitudes</li> </ul> | <ul style="list-style-type: none"> <li>○ Higher latency than LEO</li> <li>○ Less global coverage than LEO</li> <li>○ Higher deployment cost than LEO</li> </ul>           |

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