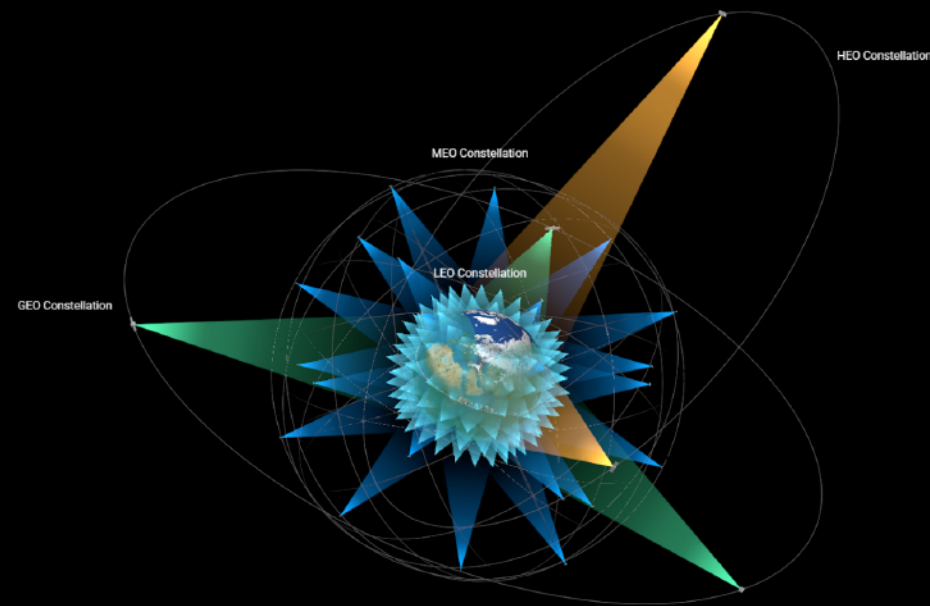


MULTI-ORBIT DEMO

SUCCESSFUL DEMONSTRATION OF SATELLITE SWITCHING BETWEEN ORBITS VIA A SINGLE TRACKING ALGORITHM



HEO to GEO PROOF OF CONCEPT

iDirect developed and recently validated a new multi-orbit solution on our Velocity platform. The technology will be a part of iDirect's next generation platform. These developments and iDirect technology are critical to enable customers with multi-orbit networks.

ADVANCED MOBILITY FOR MULTI-ORBIT

Multi-orbit complexity necessitates technologies. ST Engineering iDirect maintains market leadership in delivering the most advanced mobility capabilities:



- Beam switching
- Satellite tracking and compensation
- Dynamic beam mapping
- Bandwidth Management

DEMO SET UP

- The validated solution was performed on a multi-gateway mobility network using an iDirect-designed HEO satellite simulator.
- The NMS pushed out new dynamic beam maps to the hubs and terminals to keep them in sync, and periodically broadcast the two-line element data to precisely track the satellites.

RESULTS

- Showed how we successfully track the real time location and velocity of the HEO satellites
- Ability to compensate the resulting timing and frequency variations for both the hub and terminal
- Successful switching of the modem from GEO to HEO, HEO to HEO and back from GEO with any manual correction

BENEFITS

- Single tracking solution supports LEO, MEO, GEO, HEO, GIO
- Streamlined approach is a key building block to simplify multi-orbit operations
- Fast tracking convergence is critical for switching across different orbits