



GNSS Space Application in Turkey

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- Mission Flow
- Use – Cases
- Earth Observation
- Performance Needs
- Orbit Estimation
- GNSS Receiver

Mission Flow

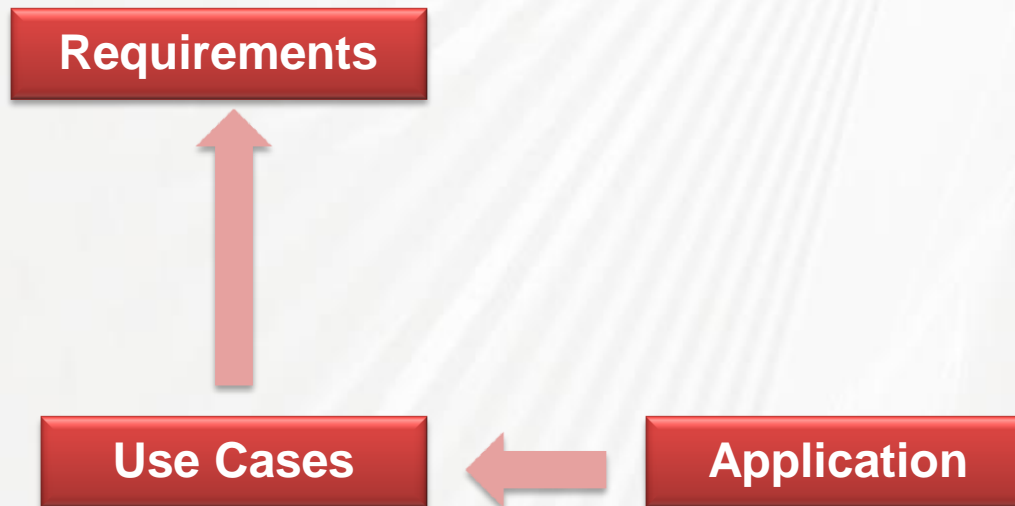


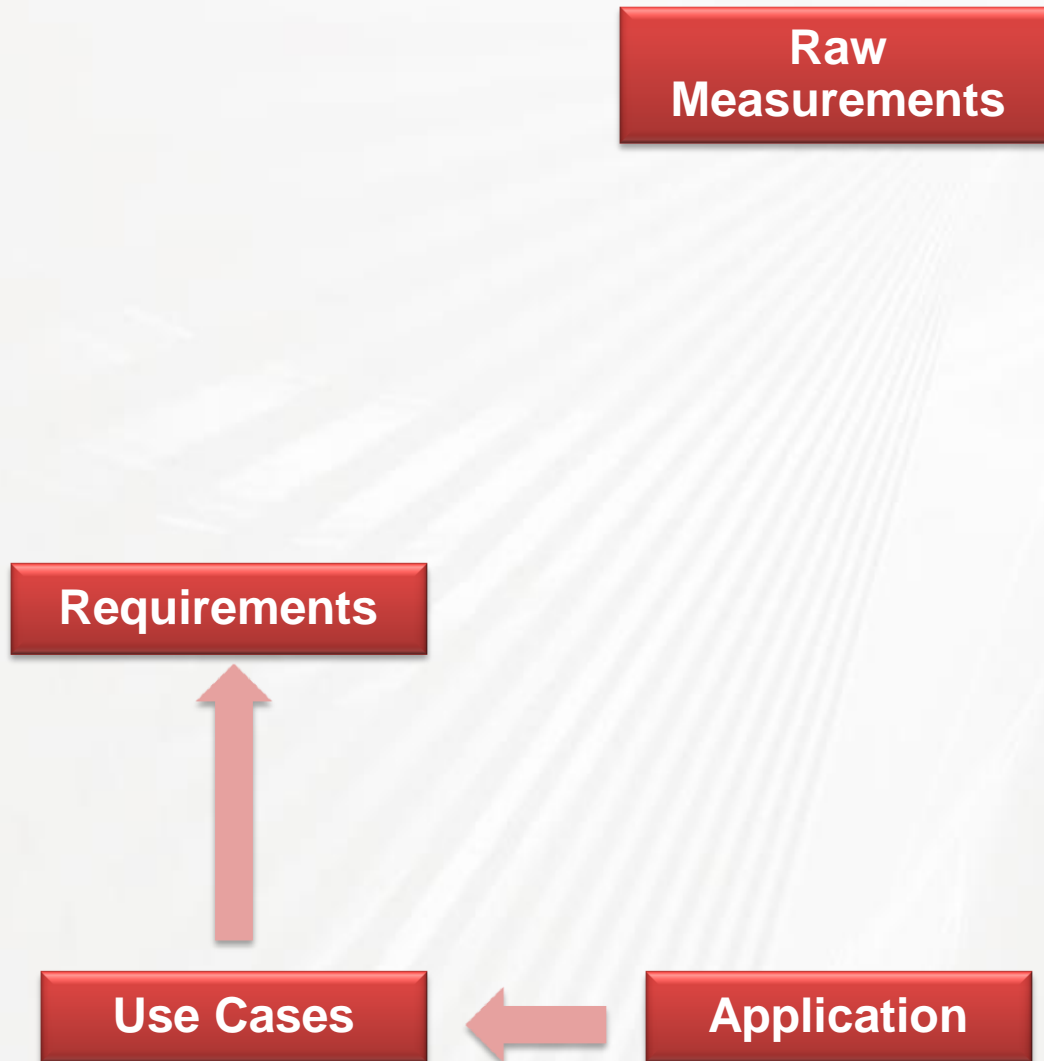
Application

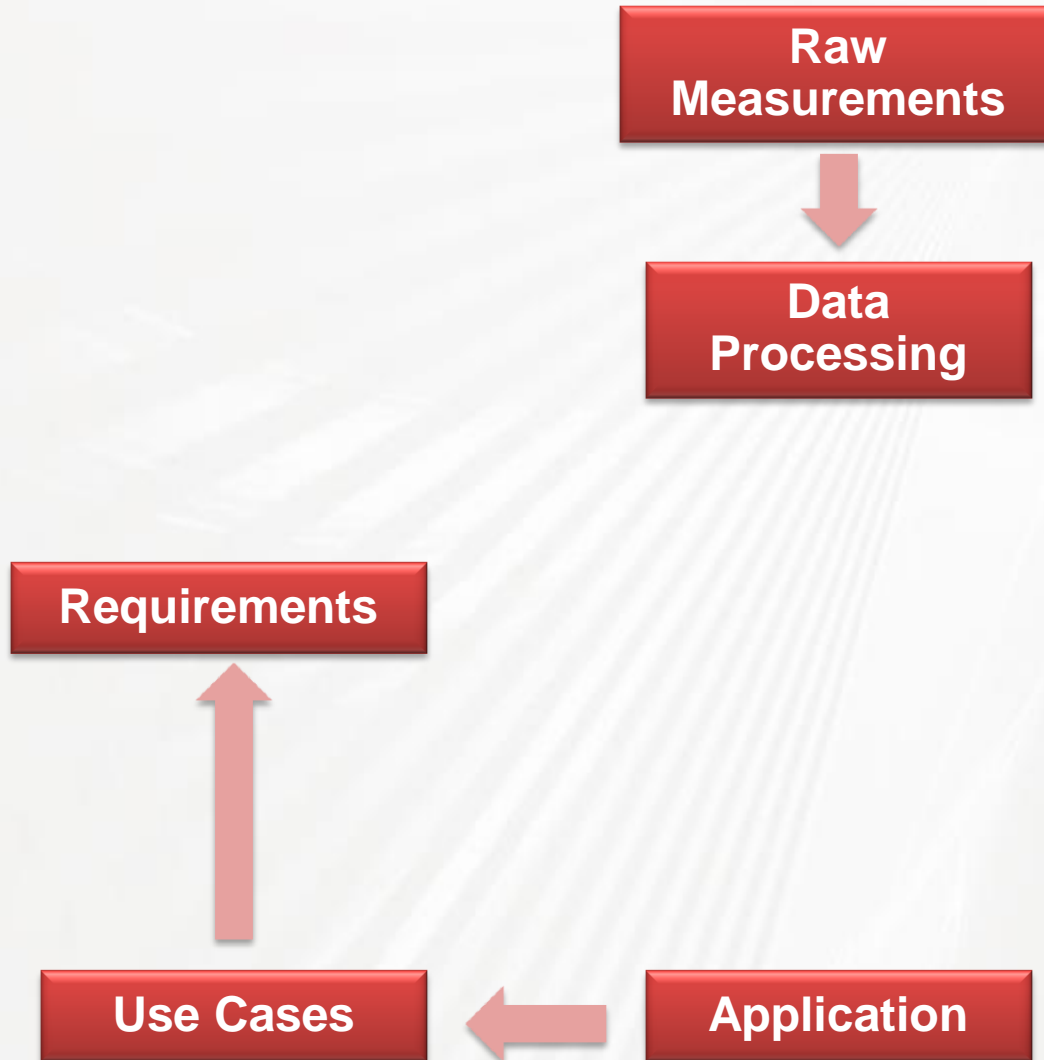
Use Cases



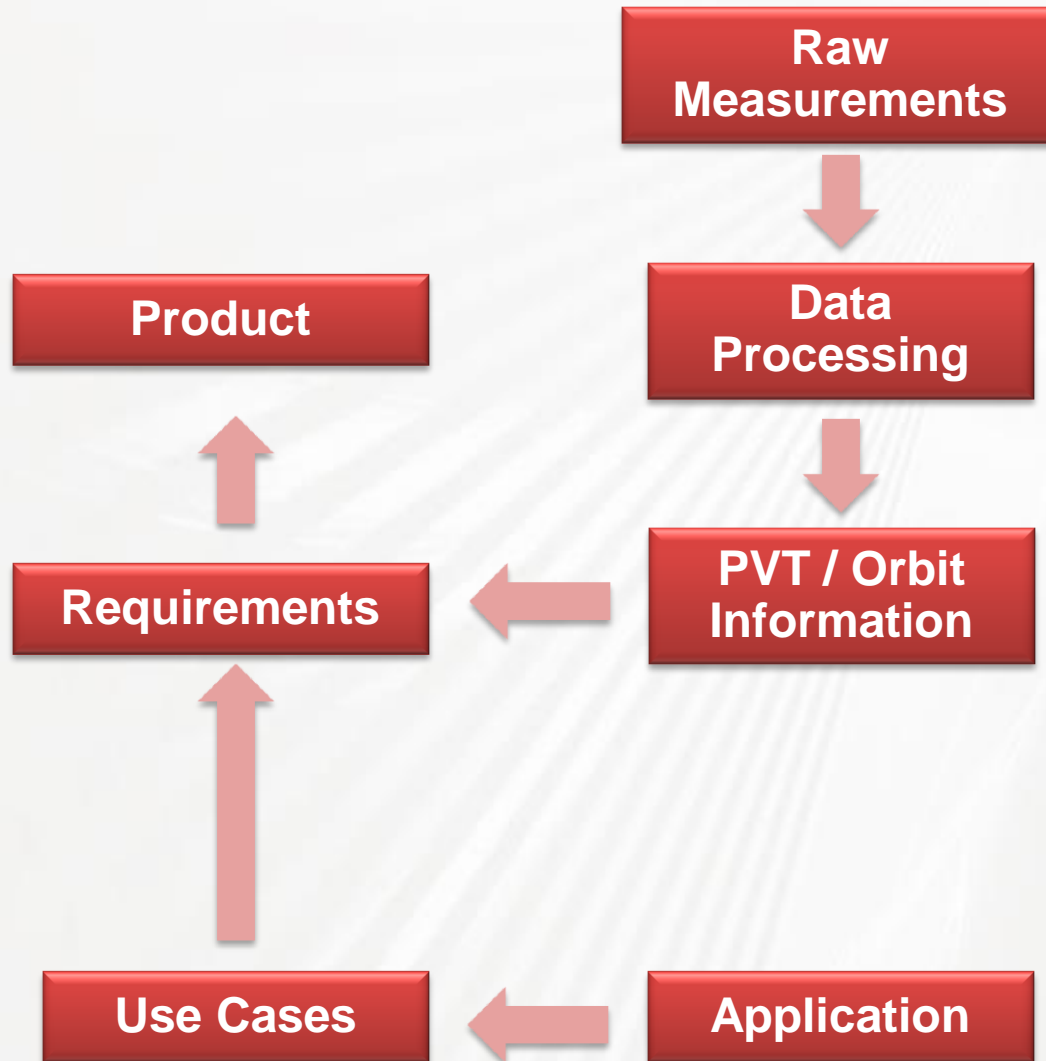
Application

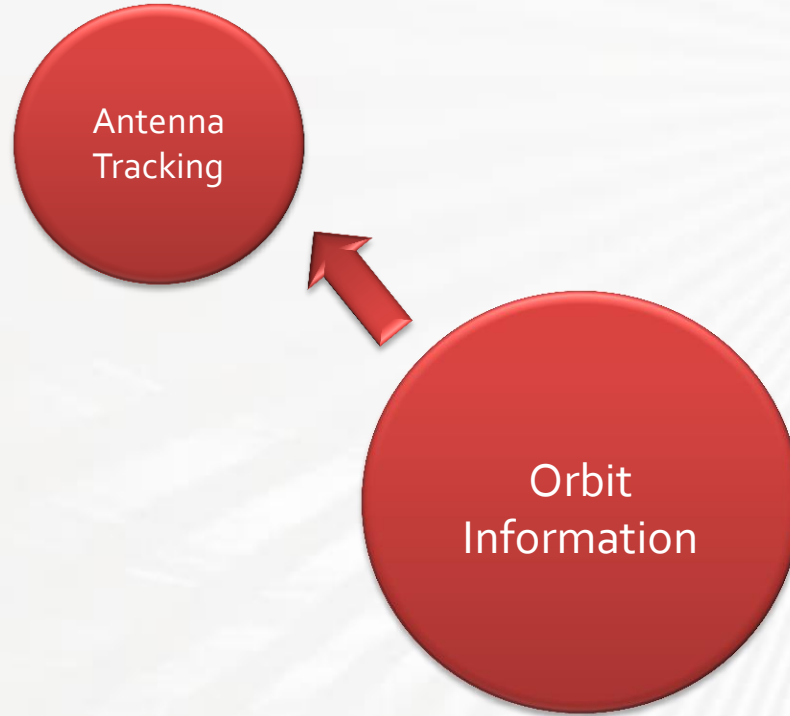


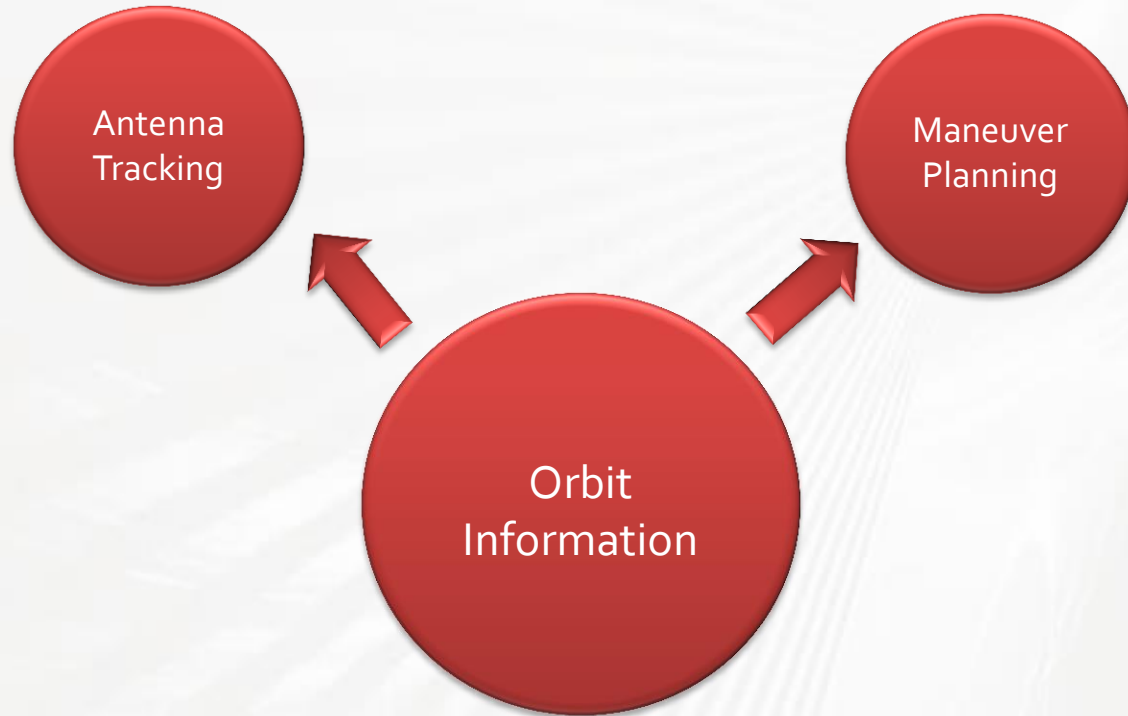


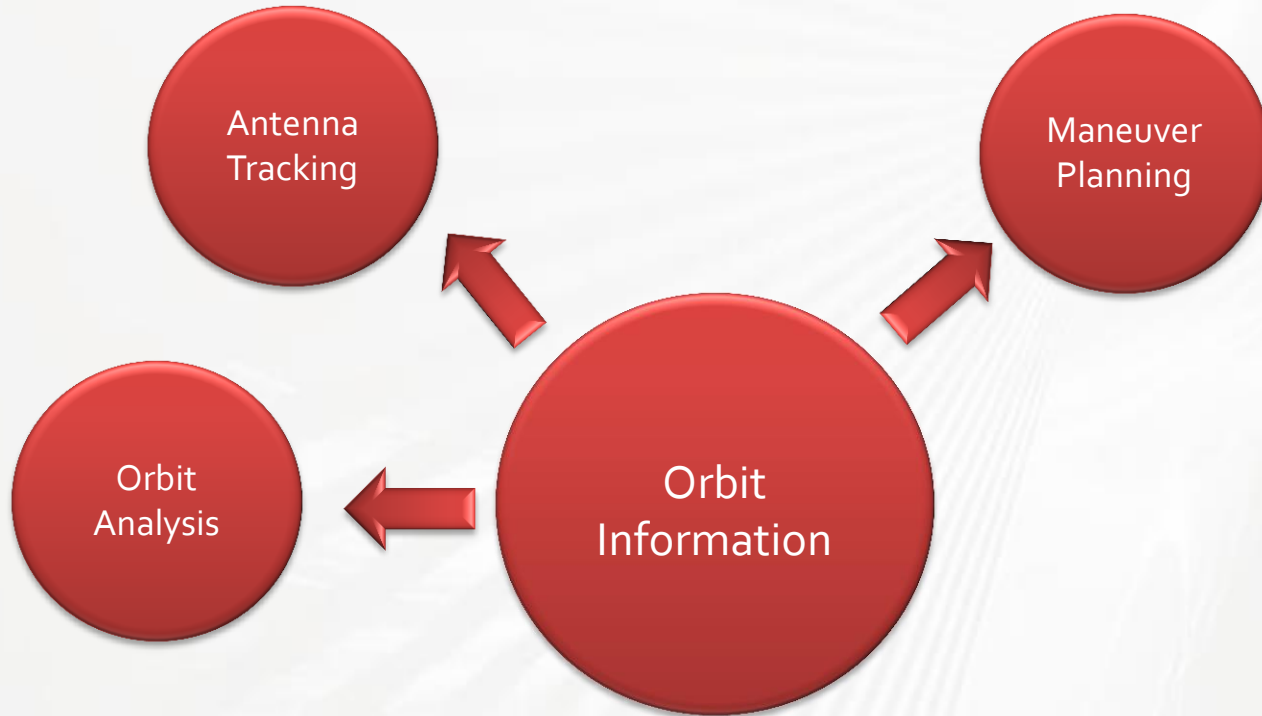


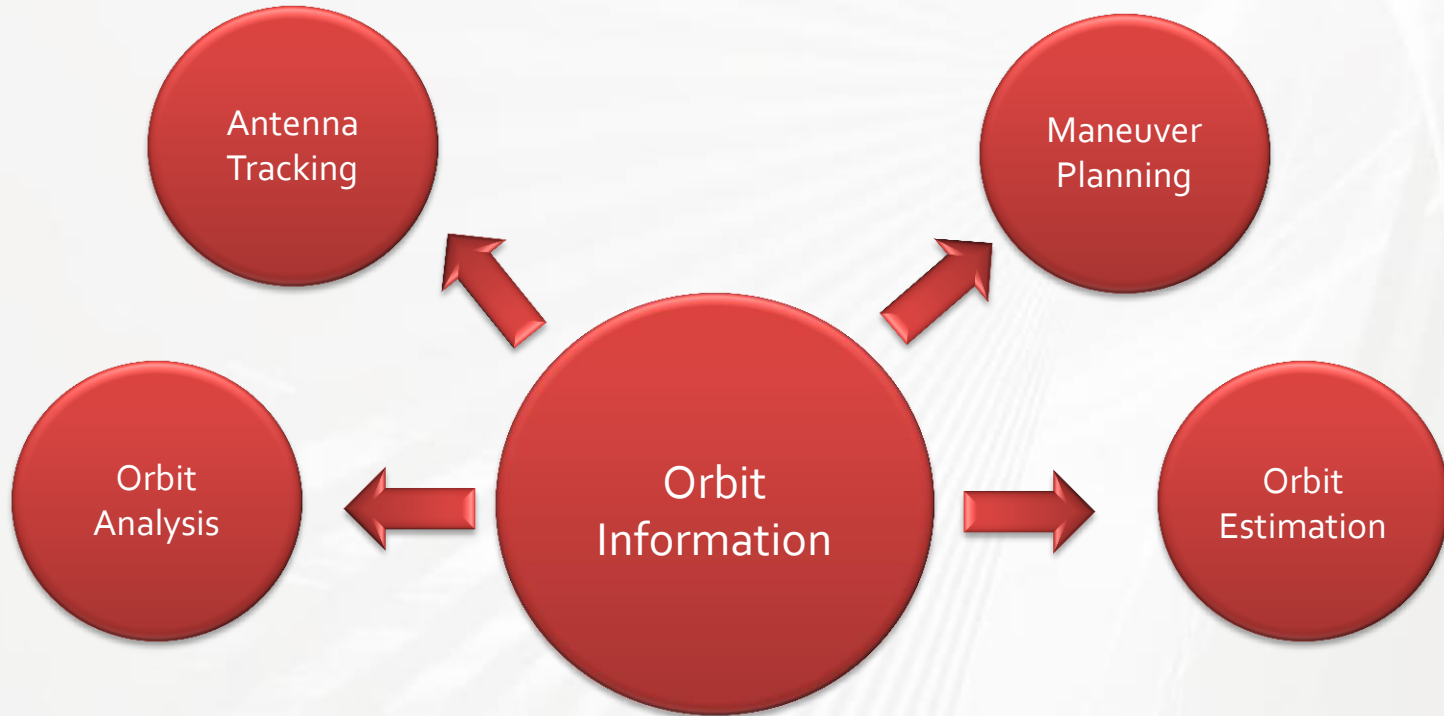
Mission Flow

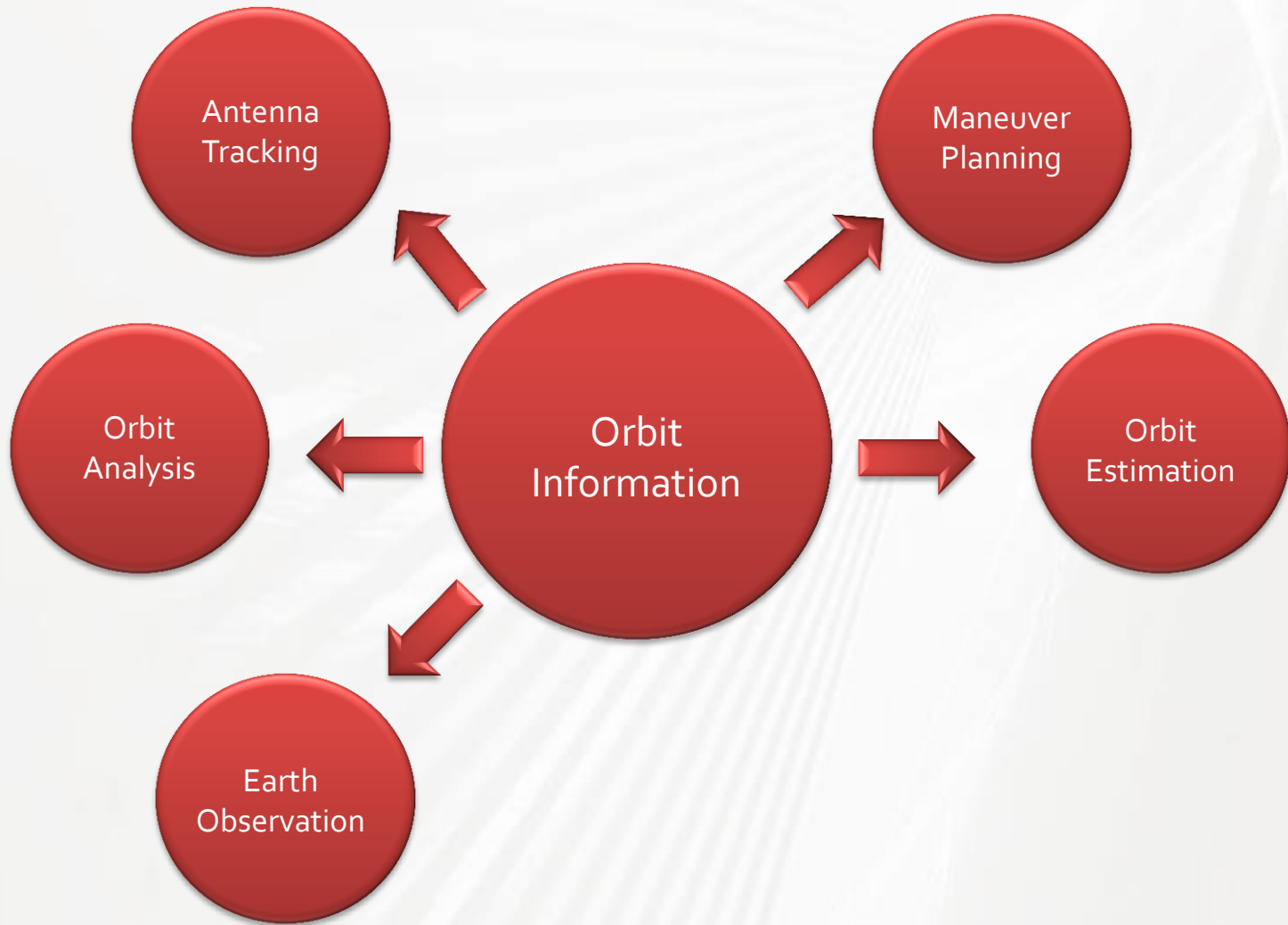


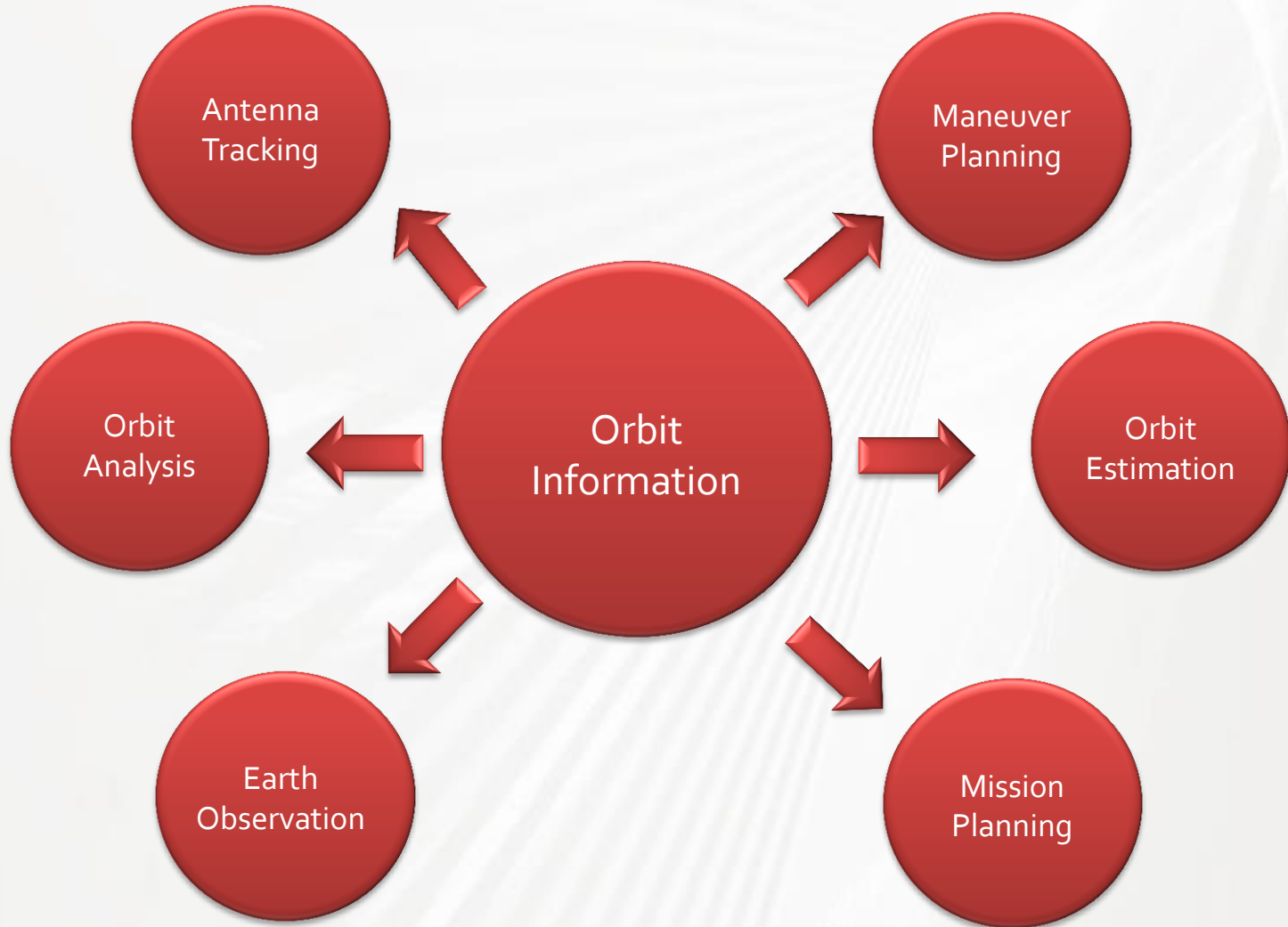




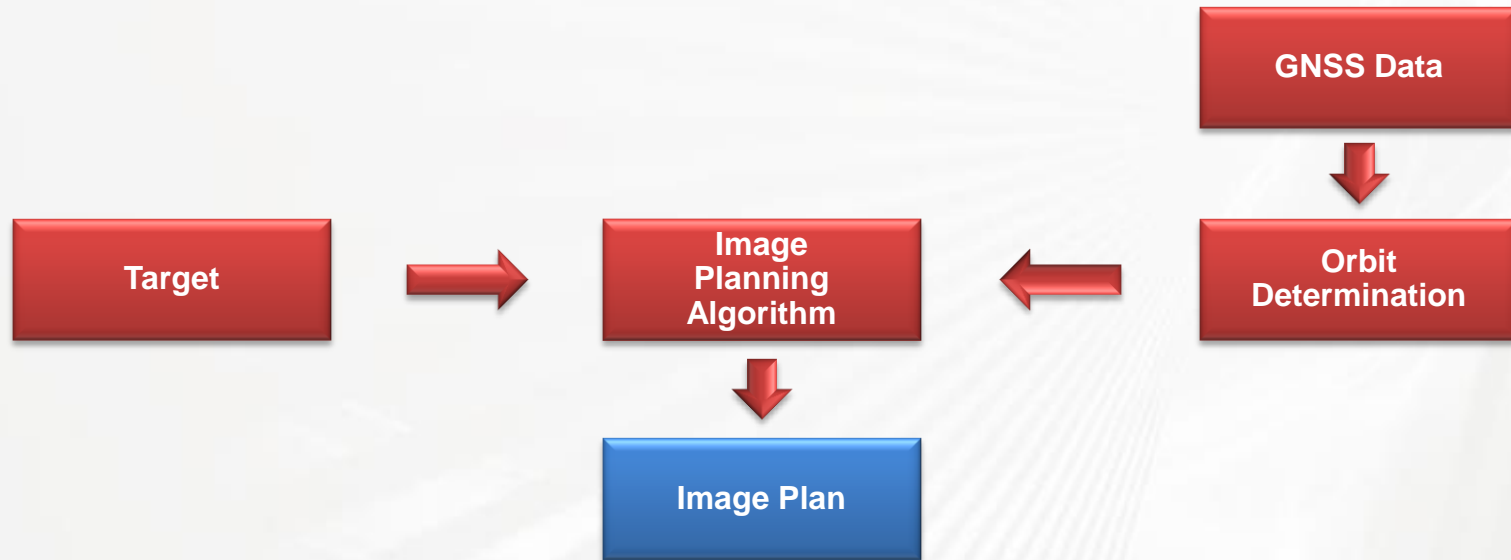


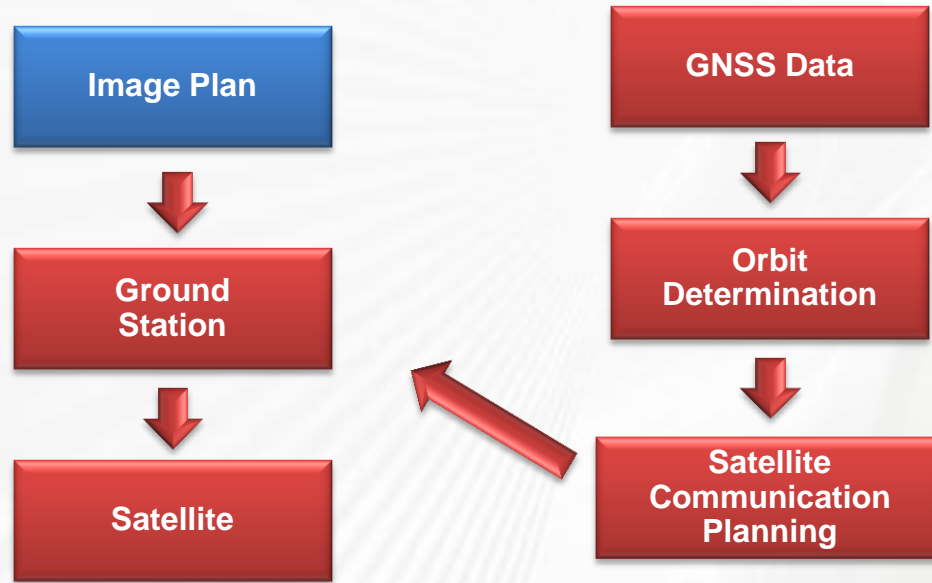




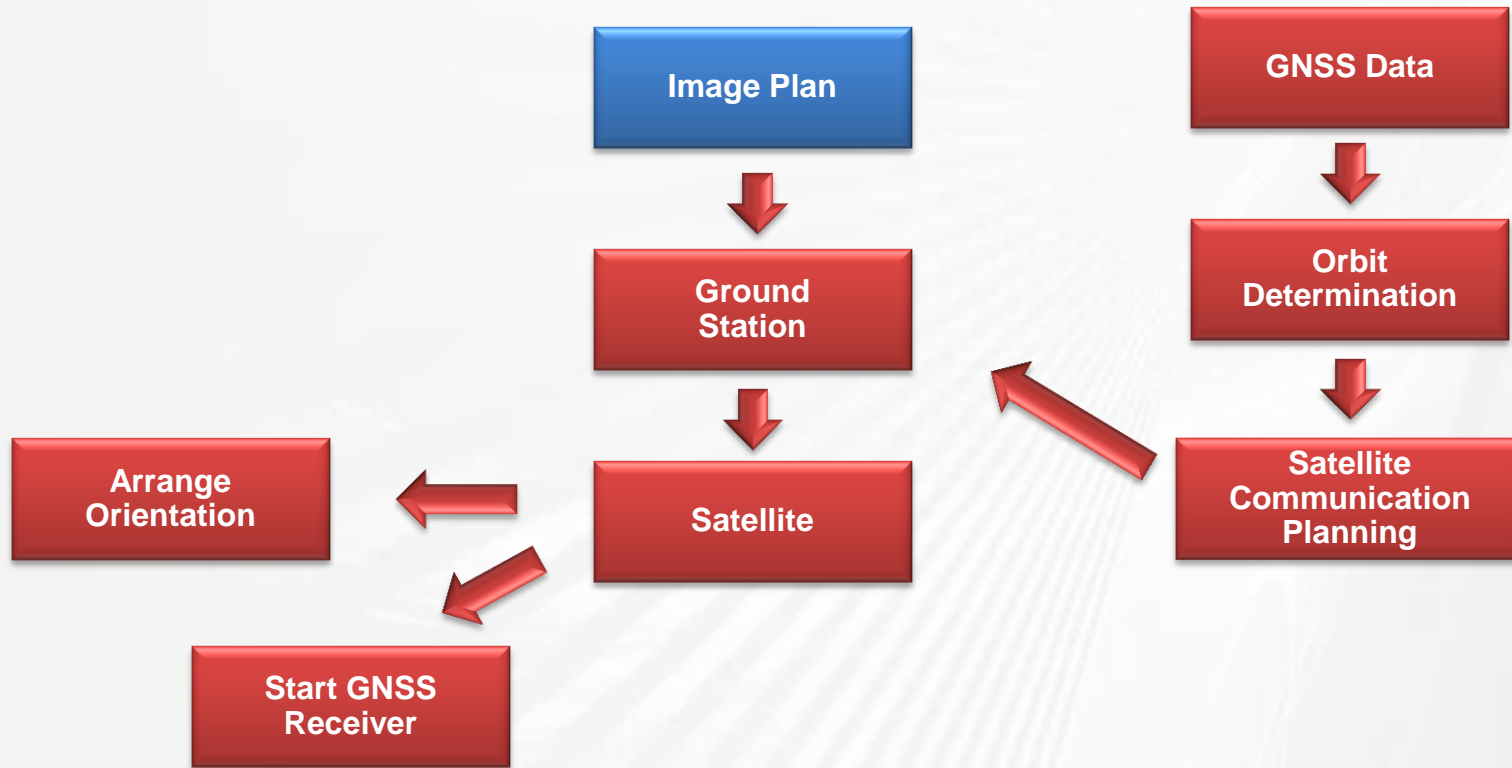




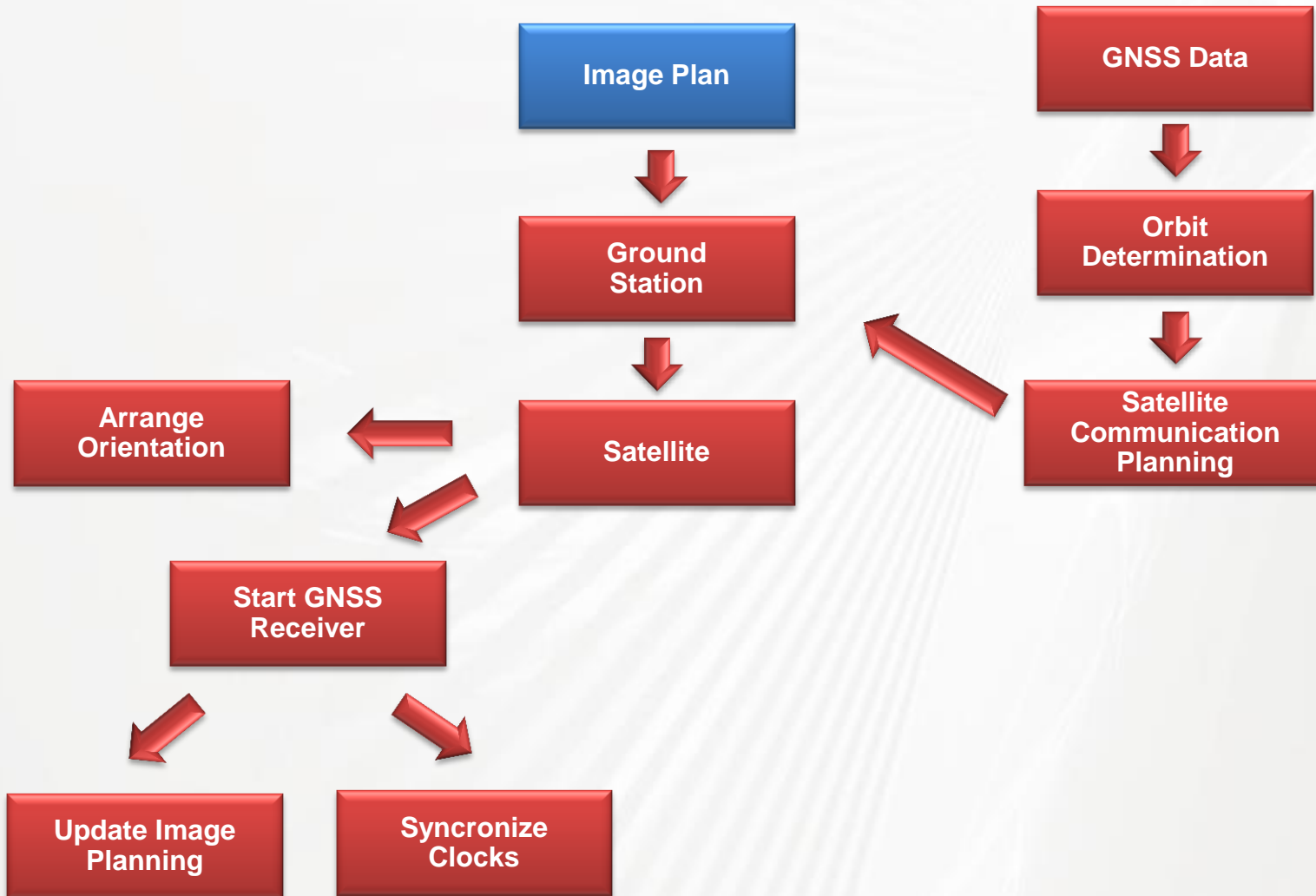




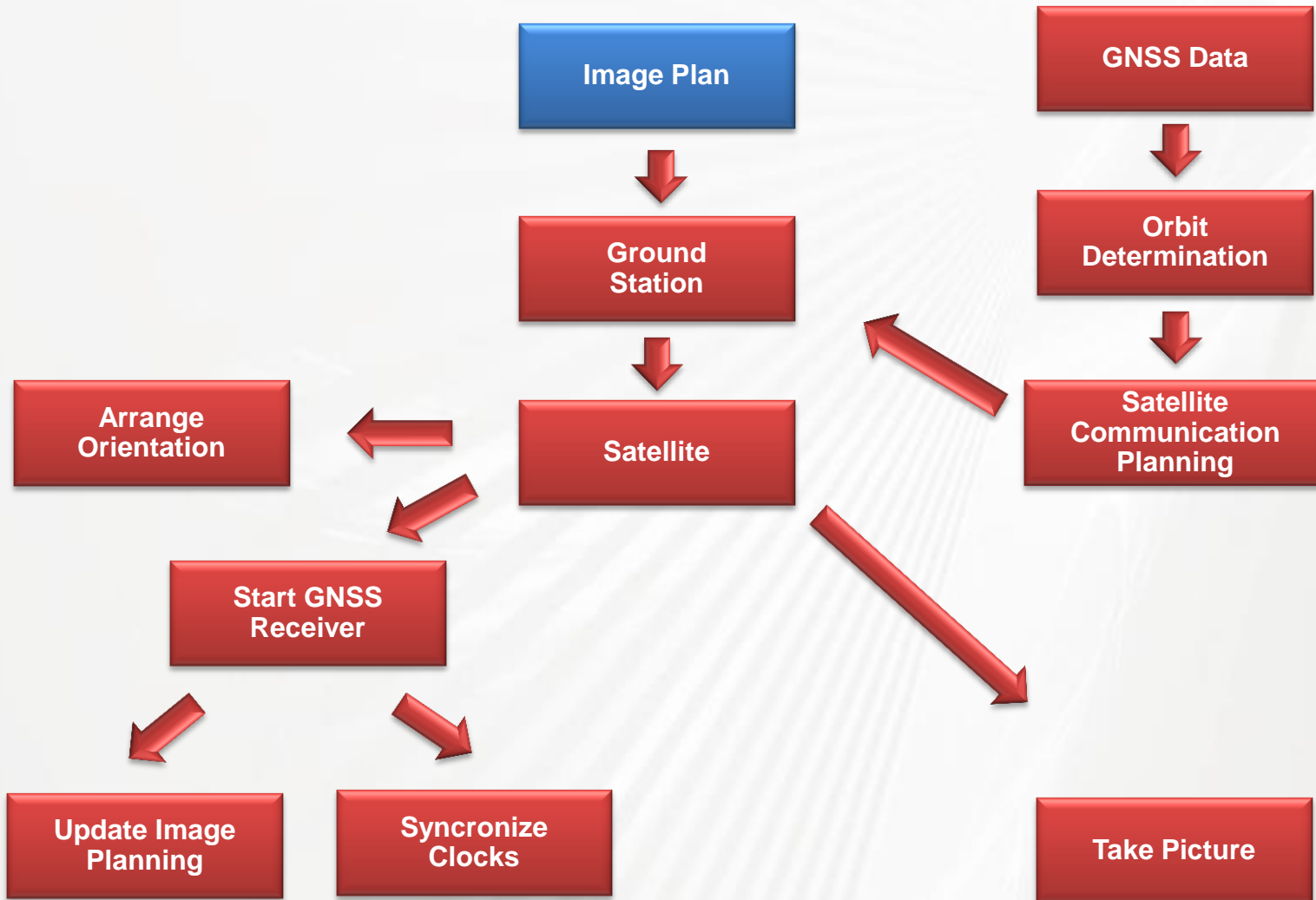
Earth Observation



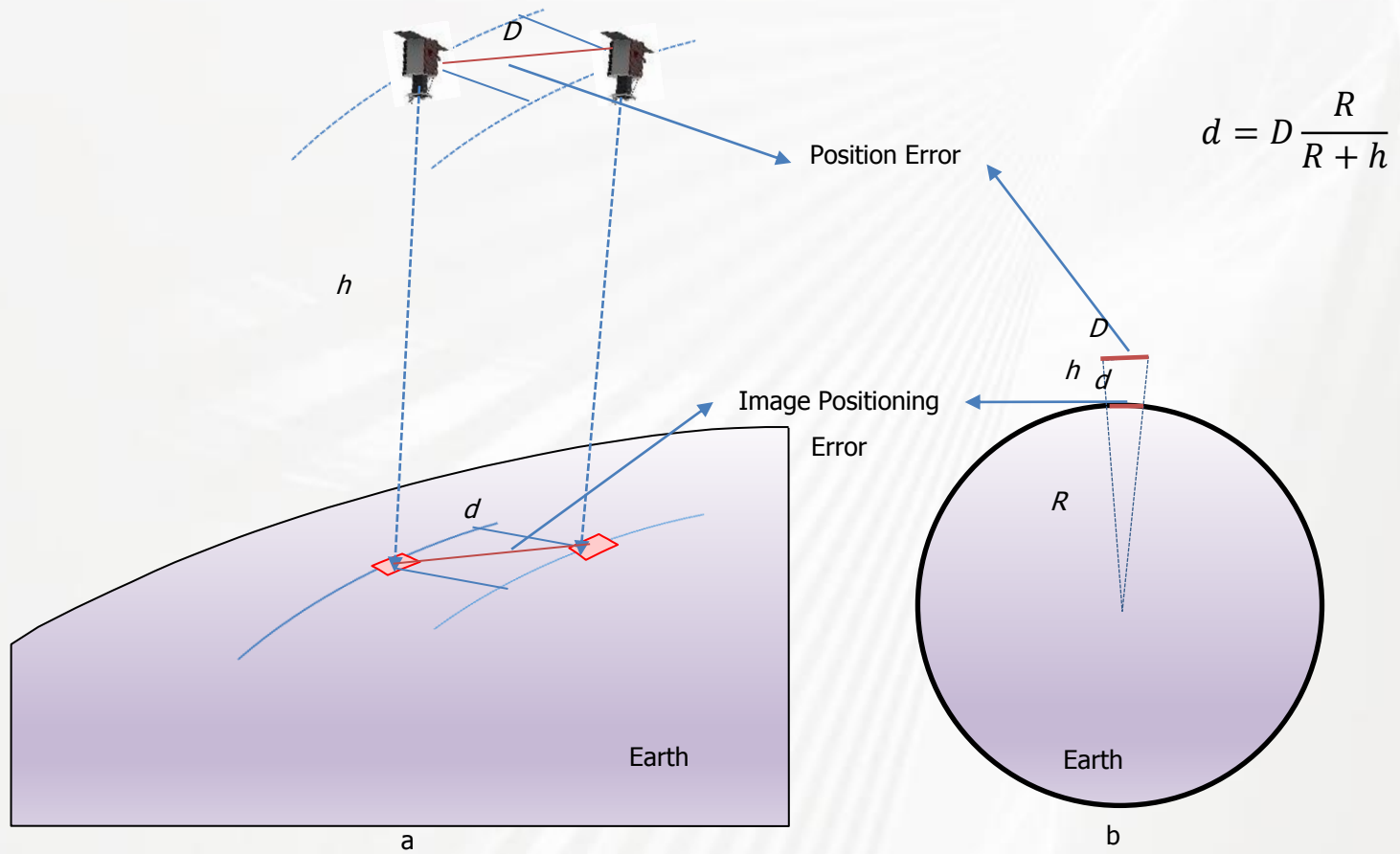
Earth Observation



Earth Observation



Performance Needs – Earth Observation



Performance Needs – Earth Observation

5m along
track
position
error



4.94m
image
positioning
error

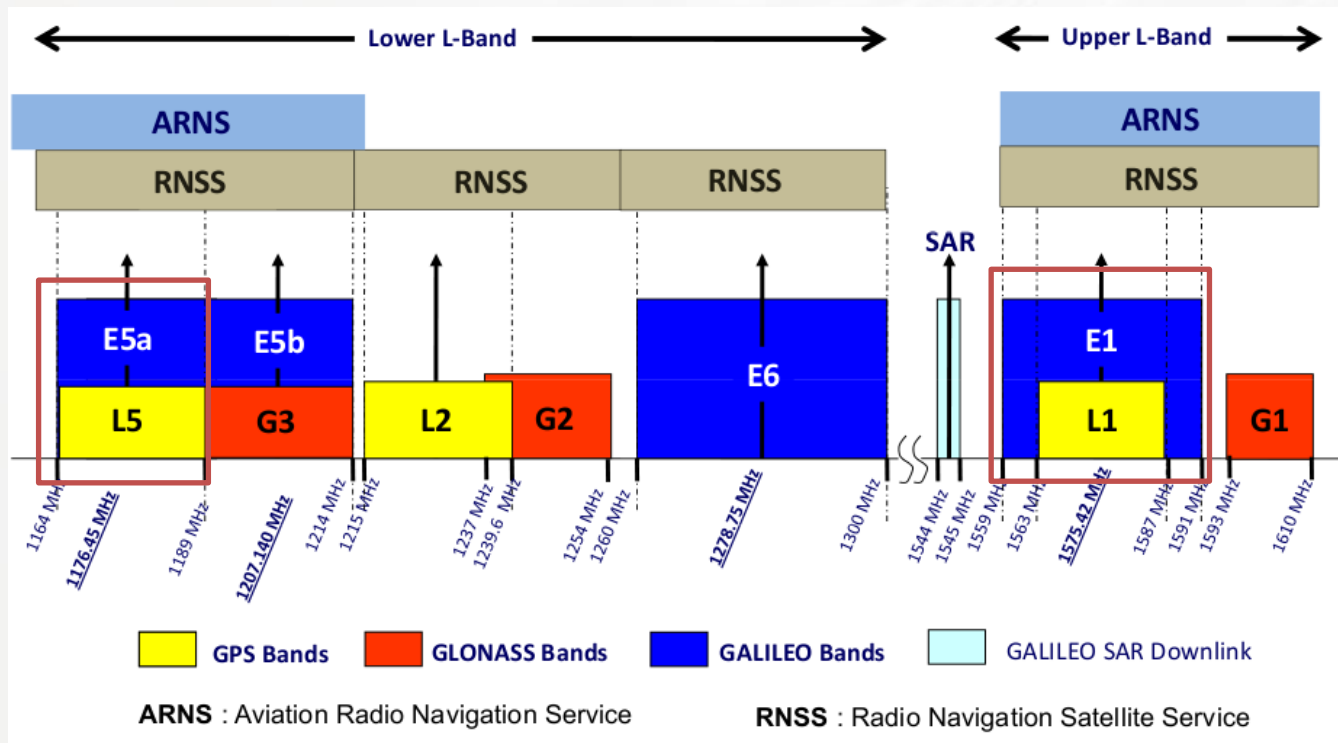
1 microsecond
time error



6.95m
image
positioning
error

- On board Orbit Estimation
 - Computationally efficient
 - Low memory usage
 - No external information
 - Real-time and moderate accuracy
- On ground Orbit Estimation
 - No restriction on computation
 - No restriction on memory
 - External Information (Ionosphere and Ephemeris Correction)
 - Post processing and high accuracy

- Multi Frequency and Multi Constellation
 - GPS & Galileo



- For Low Earth Orbit Satellite

	L1, L5, E1, E5a	L1, E1
Position (3D - RMS)	1 m	10 m
Velocity	0.001 m/s	0.01 m/s
Time	60 ns	60 ns

