

CQE Film — Earth→Mars Cadenced Pipeline

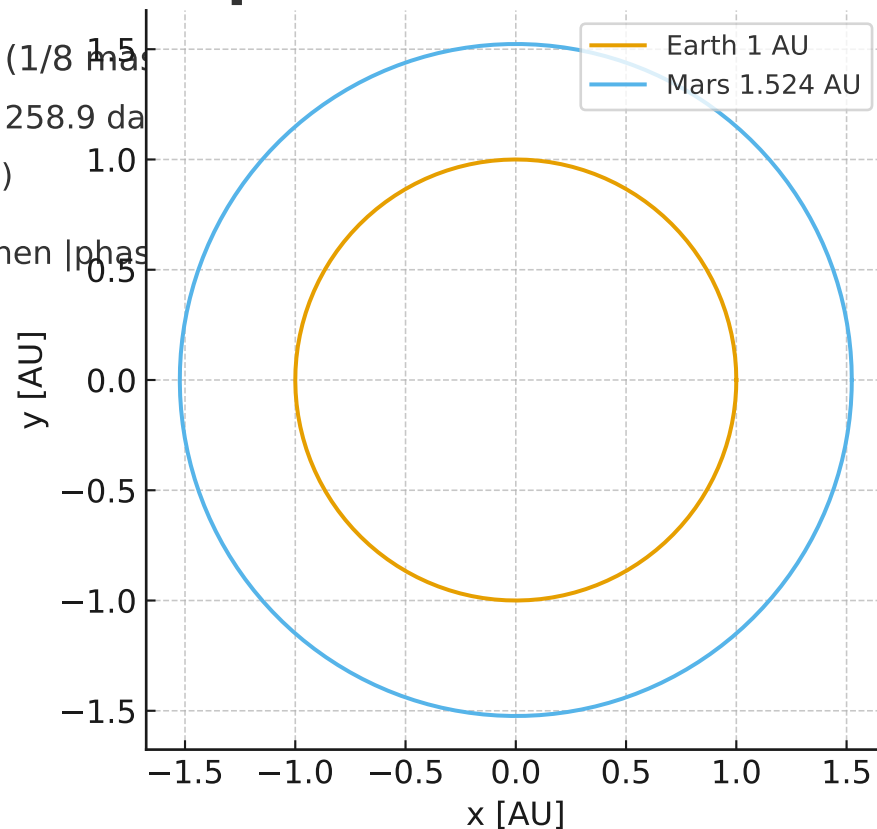
Geometry-only scene with lunar staging, small payloads (1/8 mAs)

Optimal phase angle $\approx 44.34^\circ$ (Mars ahead); Transfer time ≈ 258.9 days

TMI $\Delta v \approx 2.94$ km/s; MOI $\Delta v \approx 2.65$ km/s (idealized Hohmann)

Cadence: every 30 days \rightarrow cislunar staging; commit to TMI when $|\text{phase}| > 40^\circ$

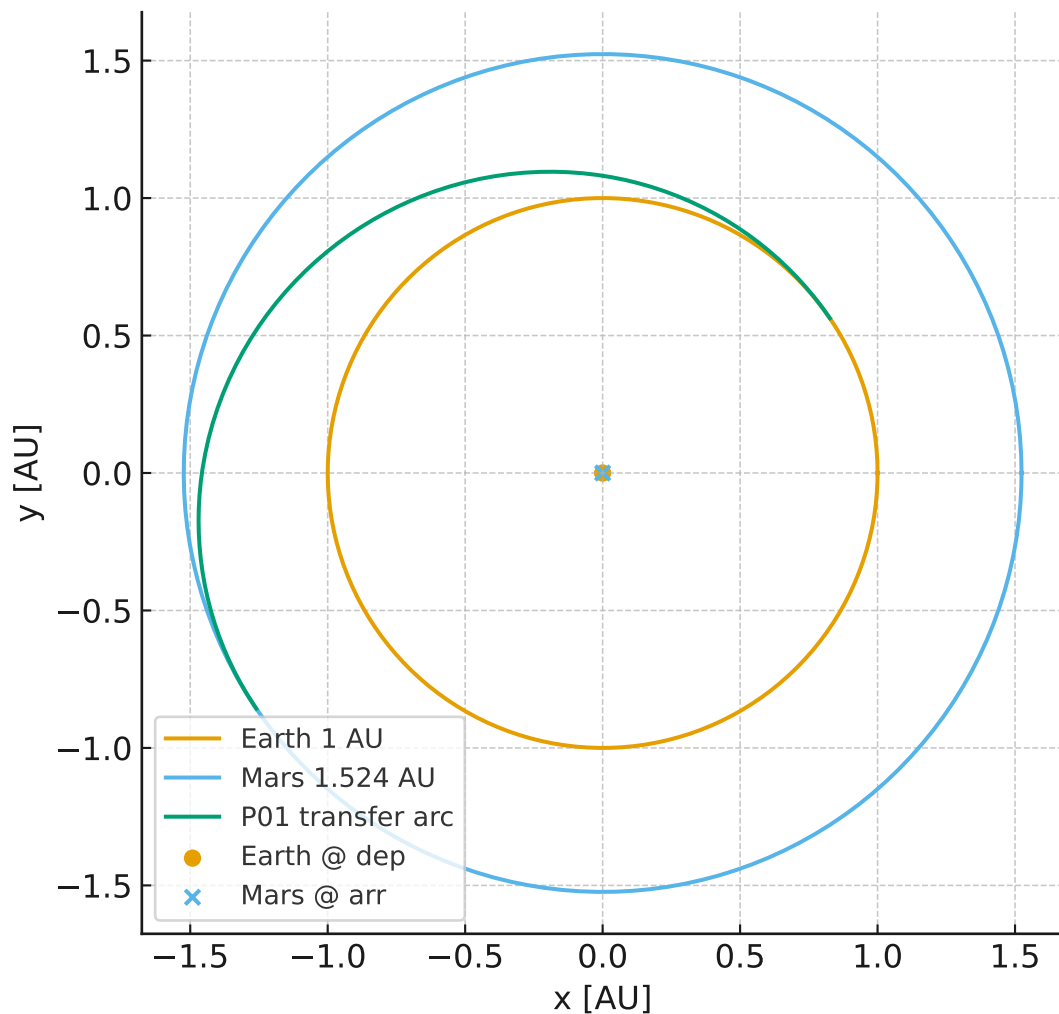
Epoch: 2026-01-01 | Payloads: 16



Cadenced Departures & Arrivals

- P01: launch 2026-01-01 → TMI 2027-02-05 → arrival 2027-10-21
- P02: launch 2026-01-31 → TMI 2027-03-07 → arrival 2027-11-20
- P03: launch 2026-03-02 → TMI 2027-04-06 → arrival 2027-12-20
- P04: launch 2026-04-01 → TMI 2027-05-06 → arrival 2028-01-19
- P05: launch 2026-05-01 → TMI 2027-06-05 → arrival 2028-02-18
- P06: launch 2026-05-31 → TMI 2027-07-05 → arrival 2028-03-19
- P07: launch 2026-06-30 → TMI 2027-08-04 → arrival 2028-04-18
- P08: launch 2026-07-30 → TMI 2027-11-12 → arrival 2028-07-27
- P09: launch 2026-08-29 → TMI 2027-11-12 → arrival 2028-07-27
- P10: launch 2026-09-28 → TMI 2027-11-12 → arrival 2028-07-27

... and 6 more payloads (see CSV)



Persona narration — P01

Navigator:

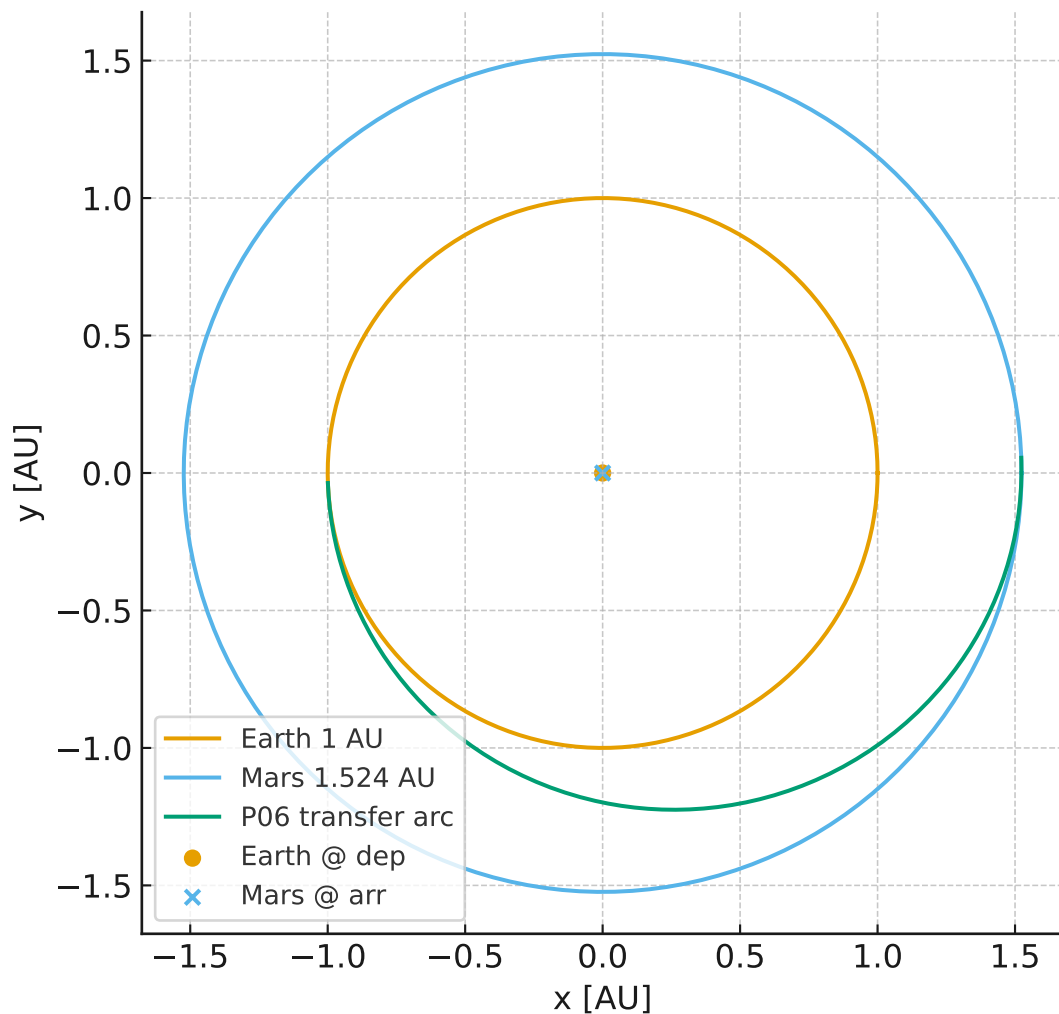
- At a sector cap with phase \approx optimal, we com
- All prior steps are simulated (LEO→cislunar s

Controller:

- Apply $\Delta v \approx 2.94$ km/s along tangential direct
- MOI at arrival: $\Delta v \approx 2.65$ km/s

Archivist:

- Ledger logs {4} commits only; interiors are v



Persona narration — P06

Navigator:

- At a sector cap with phase \approx optimal, we com
- All prior steps are simulated (LEO→cislunar s

Controller:

- Apply $\Delta v \approx 2.94$ km/s along tangential direct
- MOI at arrival: $\Delta v \approx 2.65$ km/s

Archivist:

- Ledger logs {4} commits only; interiors are v