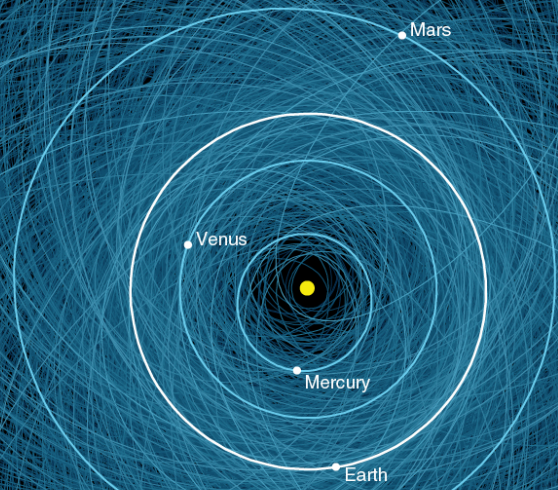


Press Conference: June 15, 2023

Rendezvous Spacecraft Reaches Asteroid 2017 PDC; Decision Makers Deliberate on Use of Nuclear Device; Kinetic Impactors Still Enroute

Paul Chodas (Jet Propulsion Laboratory/California Institute of Technology)

2017 Planetary Defense Conference, Tokyo, Japan

EXERCISE ONLY!!

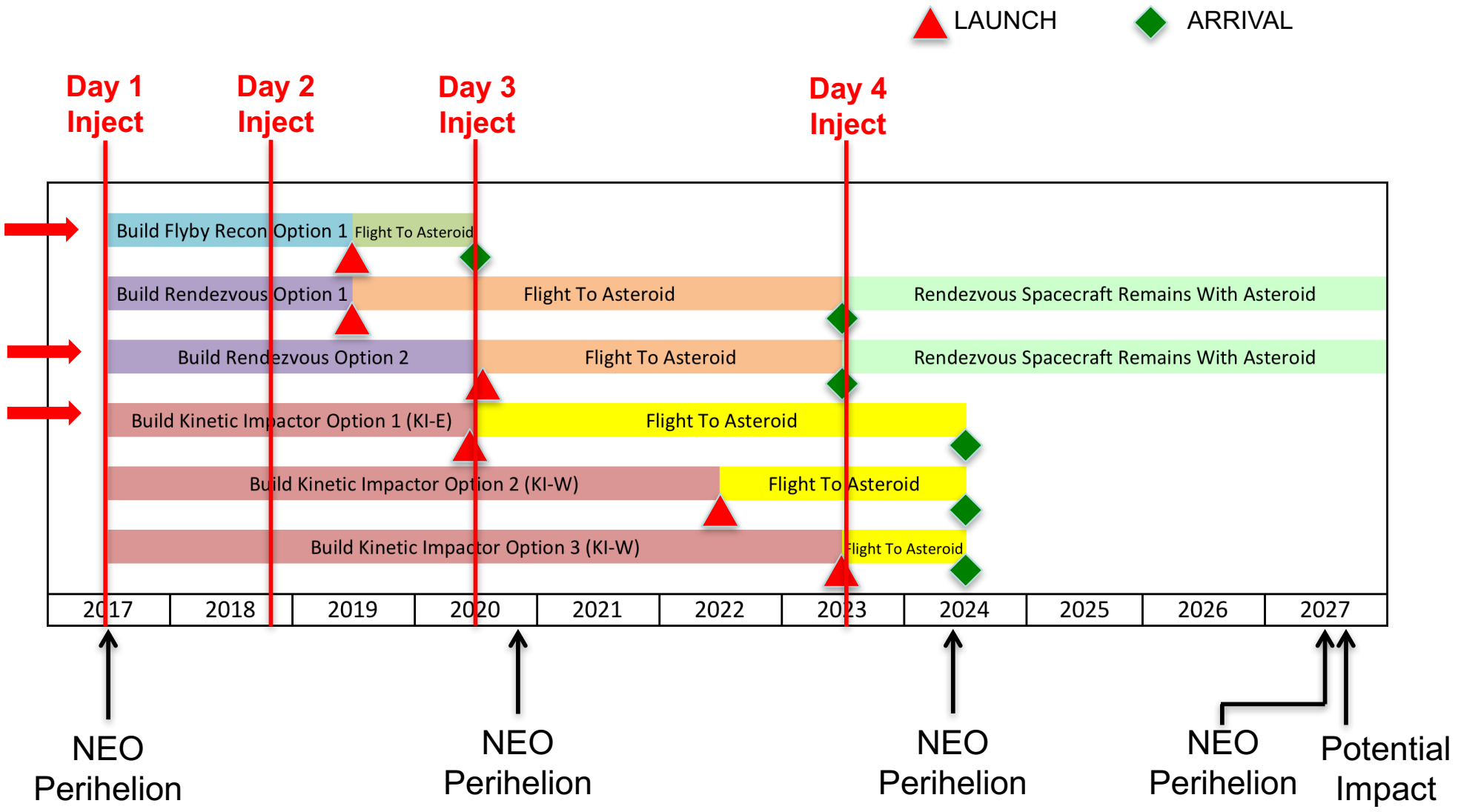
Results from the Fast Flyby Mission

Jet Propulsion Laboratory
California Institute of Technology

- One of two rendezvous observer spacecraft has reached asteroid 2017 PDC and has been surveying and characterizing the binary asteroid for a month
- The other rendezvous observer spacecraft experienced an unrecoverable reaction-wheel failure a year after launch, and its mission was abandoned
- The asteroid is still on a course headed for impact near Tokyo on July 21, 2027, now only 4 years away
- Asteroid 2017 PDC is binary, consisting of a primary body 270 meters in size and a secondary 90 meters in size
- The secondary orbits the primary in an eccentric orbit with apoapsis of 3 km and periapsis of 1 km; and is therefore only weakly bound to the primary
- Size, shape and volume of both bodies are now known very accurately; the density of both bodies is 1.9 g/cm^3
- The worst case analysis ($\beta = 1$) suggests that successful deflection is required from all five KI impactors in order to divert the primary away from Earth
- For more info: **https://cneos.jpl.nasa.gov/pd/cs/pdc17/day4.html**

EXERCISE ONLY!!

Summary of Key Dates



Courtesy of Brent Barbee (NASA/GSFC)