MarcoPolo-R – Mission design features

- Baseline target binary asteroid 1996 FG3
  - Distance to the Sun: cruise 0.52 - 1.6 AU; asteroid 0.7 – 1.4 AU; Distance to Earth: up to 2.4 AU
  - Diameter 1.5–2.1 km, rotation period ~ 3.6 hours
- Direct escape, 4 launch options in 2022-2024, 7-8 year mission, electric propulsion
- Platforms: e.g. Sol. Orb., Her./Pla., Proteus, etc.
- Touch & Go sampling (few seconds)
- Rosetta-based GNC + camera-based nav. → fine velocity control at touchdown + increased landing accuracy ~ 50 m landing ellipse
- Fully passive re-entry capsule
- X-band fixed antenna
- Total data volume sent to Earth before start of sampling operations ~ 120 GBit
GUIDELINE ONLY!! Timeline will be refined based on the actual payload selection.

LCP: 250 m