

## **Roadmap elements from B2: mission scenarios**

Low-Low Satellite-to-Satellite Tracking is the measurement technique identified for a next generation gravity missions aimed to monitoring the temporal variation of the Earth geopotential for the study of the geophysical phenomena of interest.

# Roadmap elements from B2: technologies

## Short-Medium term

Laser metrology recognized as key technology for a next gravity mission.

Focus on the development of:

- Laser interferometer/phase-meter
- Laser source and frequency stabilization system for long-lifetime mission
- Laser beam pointing system

Current accelerometer technology (GOCE) adequate or near-adequate for a next gravity mission -> work for possible improvements within the current design.

Improvements of micro-wave ranging system to be pursued as well.

Drag-free recognized as key technology for a next gravity mission. Focus on the development of:

- Mini/micro thrusters
- Drag-free control techniques integrated with formation control (can be very critical as function of the formation geometry: cartwheel, pendulum).

## Long term

- Accelerometers/gradiometers based on atom interferometry
- Gravity measurement by optical clocks