

Funded by the European Union

CARIOQA-PMP

ADDRESSING CLIMATE CHANGE THROUGH THE IMPROVEMENT OF SATELLITE-BASED OBSERVATION

CHALLENGE

Major challenges such as climate change may be better tackled through the improvement of space gravity data.

The last generation of quantum sensors represents a technological breakthrough while offering new opportunities of application in the field of climate and environmental sciences.

Satellite-based observation through quantum sensors allows to collect and monitor climate data that will further improve our understanding of complex climate phenomena such as climate change.

Satellite Gravimetry is a unique tool for monitoring climate change.

CONCEPT

CARIOQA aims at developing quantum gravimeters/accelerometers in space within the next decade through a Quantum Pathfinder Mission.

Such technology will be used for satellite-based Earth Observation in order to monitor climate change and thus support the development of mitigation and adaption measures.

EXPECTED OUTCOMES & IMPACT

Prepare the ground for new services related to Earth observation through new applications of quantum gravimeters/accelerometers in space.

Pave the way for deploying a quantum-based mission monitoring the mass transport phenomena on Earth.

Advance European leadership and independence in spatial R&I.

VISION

CARIOQA-PMP will prepare a European Quantum Pathfinder Mission by developing an Engineering Model of its instrument and assessing its performance through mission scenario analysis and simulations.

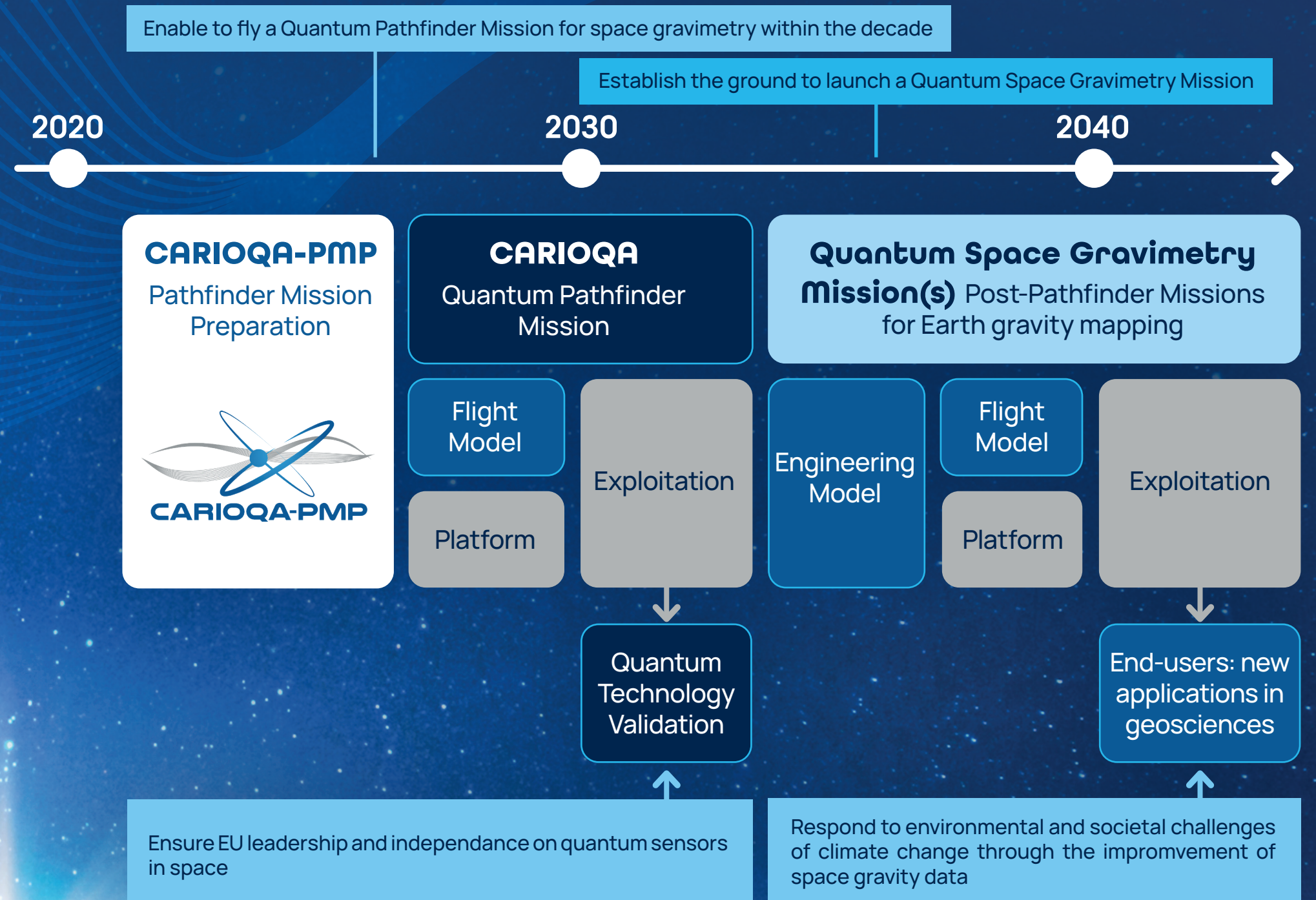
UNIQUE FEATURES

Comprehensive approach including scientific, industrial and programmatic features. Space quantum gravimeter/accelerometer based on Chip-based Rubidium Bose Einstein Condensate compatible with microgravity.

HOW DOES THE CONSORTIUM MAKE A DIFFERENCE

CARIOQA-PMP will bring together the main players of quantum sensors in Europe. CARIOQA-PMP will gather a world-unique know-how and expertise to prepare a Quantum Pathfinder Mission and develop its related instrument.

A ROADMAP FOR THE PREPARATION OF THE QUANTUM PATHFINDER MISSION



START DATE

December 2022



DURATION

40 months



BUDGET

17 millions €



FUNDED UNDER THE PROGRAMME

HorizonEurope



CONSORTIUM

17 European partners



AIRBUS

