CARIOQA-PMP

Newsletter N°4

September 2025

Discover the latest news
from the CARIOQA-PMP project!

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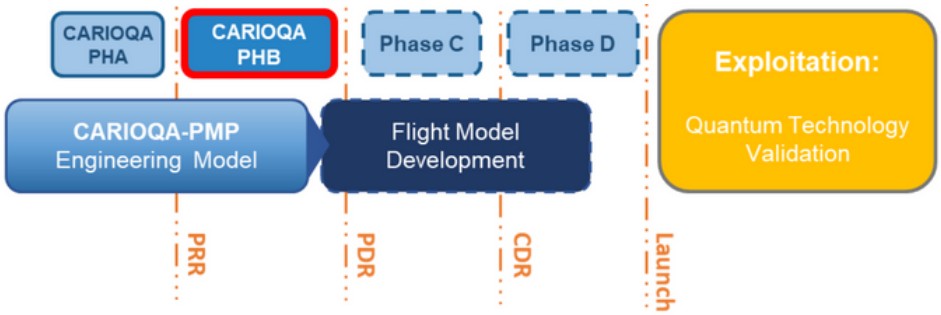
1. CARIOQA Mission will launch its Phase B in October

CARIOQA-PHB

CARIOQA-PHB logo

This October, the consortium behind the CARIOQA-PHB project will convene in Toulouse for the official kick-off meeting, marking the formal launch of this new phase of the programme.

Following the submission of a proposal to the European Commission in 2024, the consortium recently received a positive funding decision, enabling the project to move forward. CARIOQA-PHB is set to run for approximately two year and will succeed the currently ongoing Phase A. It will also be carried out in parallel with the CARIOQA-PMP initiative, ensuring continuity and coherence across the programme's roadmap



Roadmap of the CARIOQA Mission

This kick-off represents a key milestone in the overall CARIOQA mission. It brings Europe one step closer to achieving its ambitious objective: to put in orbit the first quantum accelerometer. The outcomes of this phase will play a critical role in shaping future technological developments and scientific applications in quantum space gravimetry.

2. A new podcast series on the CARIOQA-PMP Project launching this September

This September, the CARIOQA-PMP project launched a three-part podcast series designed to bring the mission's scientific and technological objectives closer to the public.

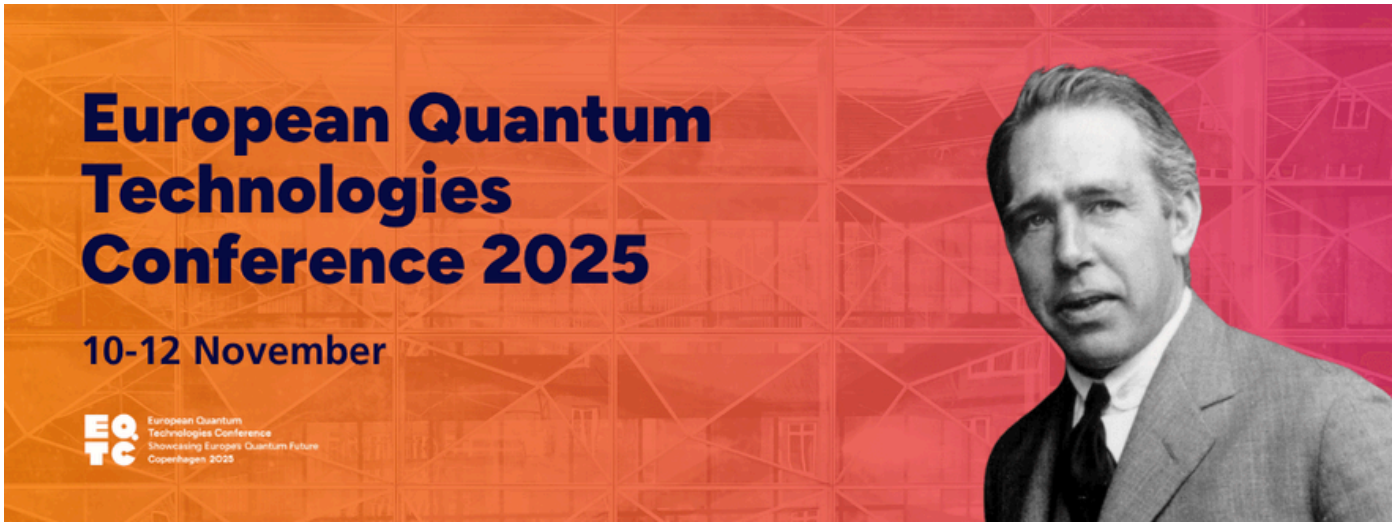
As part of this initiative, expert members of the CARIOQA-PMP consortium were interviewed on specific themes related to the project, offering listeners an engaging and accessible way to explore the key topics and broader context of the mission.

Listen to the first episode on YouTube or Spotify by clicking the logo below!

The first episode, released on 15 September 2025, focused on quantum innovations in space. It featured Félix Perosanz, Head of Earth Observation–Solid Space Programmes at CNES (French Space Agency), who shared his insights on the history and evolution of gravimetry space missions, the importance of measuring Earth's gravity, and how CARIOQA-PMP is advancing quantum accelerometers in orbit for future Earth observation applications. Listeners gained a clear understanding of both the legacy of past missions and the exciting innovations driving the project forward.

Stay tuned for more exciting insights from the project's experts!

3.Registration now open for EQTC 2025 in Copenhagen



The European Quantum Technologies Conference (EQTC) 2025 is now open for registration. The event will take place from 10–12 November 2025 in Copenhagen, the historic home of physicist Niels Bohr.

As the flagship annual event of the Quantum Flagship, EQTC brings together Europe's vibrant quantum community, showcasing cutting-edge developments across all major scientific and technological pillars of the European quantum ecosystem. This year's edition promises a dynamic and multidisciplinary programme, featuring:

- Scientific sessions highlighting the latest research advances
- Industry showcases presenting real-world applications
- Policy dialogues shaping the future of quantum technologies in Europe
- Hands-on demonstrations and networking opportunities

EQTC serves as a unique forum for researchers, industry leaders, policymakers, and innovators to exchange knowledge, forge new partnerships, and accelerate innovation in the rapidly evolving field of quantum technologies.

Registration and further details are available here.

4. Discover the latest interviews from the CARIOQA-PMP Project

The CARIOQA-PMP interview series offers valuable insights into the project's objectives, technical breakthroughs, and strategic relevance. Since our last newsletter, several new interviews have been published, including:

- Christine Fallet provides an overview of CNES's role in guiding the project and outlines the mission's priorities.

- Simon Conticello, Programme Officer at the European Commission, provides insights into the strategic role of CARIOQA within the EU's space and quantum research agendas. His interview sheds light on the Commission's expectations and the broader vision for Europe's technological sovereignty in this field.

- Bruno Desruelles takes us through the story of Exail, one of the key industrial partners involved in CARIOQA. He details the company's journey and explains the functioning of the innovative quantum technologies being developed within the CARIOQA-PMP framework.

These interviews offer a unique opportunity to understand not only the technical depth of the CARIOQA project, but also its strategic importance for European innovation and autonomy in space-based technologies.

More interviews are coming soon, with additional experts from the consortium sharing their perspectives on the challenges, breakthroughs and future directions of the mission.

Stay informed by following our official channels, and don't miss the chance to explore the quantum future of space with CARIOQA-PMP!

5. CARIOQA-PMP launches its webinar series

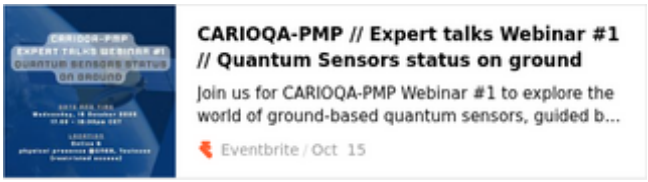
As part of its expert outreach activities, the CARIOQA-PMP project is organising a series of three expert webinars targeting professionals from both the Earth Observation and Cold Atom communities. These webinars aim to facilitate knowledge exchange, present project results, and promote best practices related to quantum sensor technologies for gravity measurements, as well as applications in gravity missions.

Each webinar will feature two to three specialists offering diverse and complementary perspectives on a shared topic, followed by a moderated panel discussion and a live Q&A session. Designed for an expert audience, the webinars will provide in-depth, scientifically rich content.

The first webinar in the series will take place on 15 October 2025, focusing on:“Quantum Sensors – Status on Ground”.

The events will be broadcast live. Physical attendance at the first webinar is limited to CNES internal staff and consortium partners present on the CNES site in Toulouse. Online participants will receive the Zoom link closer to the event date.

Please find access to the registration.



5. Discover the project partners Politecnico di Milano and the Technical University of Munich

Politecnico di Milano, founded in 1863 by Francesco Brioschi, is an Italian public scientific-technological university which trains engineers, architects and industrial designers. Today, POLIMI is recognized as a center of excellence in Engineering, Architecture and Design, with relationships and alliances with leading international technological universities and research centers.

The Satellite Geodesy team at Politecnico di Milano works on topics of global and local gravity field modelling. In the CARIOQA-PMP project, the team is in charge of the development of software tools for gravity field recovery and also takes part in the design of the Quantum Space Gravimetry Mission. In particular, the focus of Politecnico di Milano is on the development of numerical simulations which aim at assessing the performances of the quantum pathfinder mission, by evaluating different orbital scenarios and the expected instrumental accuracy, and on the investigation of possible future developments towards a fully-fledged quantum mission.

The Technical University of Munich (TUM) is a leading technical university in Germany. It is a state university with more than 50,000 students. In the excellence initiative of the German government it has been selected as one of the German Universities of Excellence for the third time in a row. The Chair of Astronomical and Physical Geodesy (headed by Roland Pail) is part of Department of Aerospace and Geodesy, which is one of 8 departments of the School of Engineering and Design. Main fields of research are: Global and regional gravity field modelling from terrestrial, airborne and satellite data; Design and numerical simulation of future gravity mission concepts and development of advanced processing strategies; Analysis of satellite sensors for gravity field observations; Mass transport processes in system Earth from time variable gravity field; Height systems and their global unification.

In the frame of CARIOQA-PMP TUM is in charge of the mission performance analyses by simulations and Quantum space gravimetry mission scenario building for Earth Observation.

Future events related to CARIOQA-PMP

Upcoming events :

29 September - 03 October 2025 : IAC 2025 in Sydney, Australia

15 October 2025 : CARIOQA-PMP Webinar

October 2025 (week 42): CARIOQA-PHB Kick-off / CARIOQA-PHA final event

February 2026: CARIOQA-PMP General Assembly

CARIOQA-PMP

The CARIOQA-PMP team thanks you for your interest in the project!

Funded by the European Union

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DLR Deutsches Zentrum für Luft- und Raumfahrt

AIRBUS

Leibniz Universität Hannover

DTU Technical University of Denmark

SYRTE l'Observatoire de Paris | PSL
SYstèmes de Référence Temps-Espace

LP2N Laboratoire Photonique Numérique & Nanosciences

ONERA THE FRENCH AEROSPACE LAB

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