

# General information

*Company name: NPC Srl*

*Contact name: Enrico Callegati*

*Email: [callegati.e@crit-research.it](mailto:callegati.e@crit-research.it)*

*Telephone number +39 059 776865*

Area of interest	Choose Y or N
○ Functional encryption and reduction of leakage (e.g., anonymization or obfuscation)	N
○ Ultra-lightweight cryptology and ultra-high-speed cryptographic algorithms including quantum cryptography	N
○ Physical cryptanalysis, including tampering, side channel, faults injection attacks, and security of tools for good software implementation and validation practices	Y
○ Authenticated encrypted token research for mobile payment solution	Y
○ Innovative cryptographic primitives and complementary non-cryptographic privacy-preserving mechanisms to enforce privacy	Y
○ New techniques, such as quantum safe cryptography, which are secure from quantum computers	N
○ Quantum key distribution	Y
○ Automated proof techniques for cryptographic protocols	N

# Competencies



- *NPC - SpaceMind Division:*
  - R&D of products dedicated to space sector.
  - Team → Msc Aerospace Engineers with background in space technologies and experience in nanosatellite cubesat class missions
  - The business idea of Spacemind is to become a solution provider for nanosatellite applications. The synergy between the scientific competence of Spacemind and the supply competence of NPC is a key element to offer a complete package of solutions in aerospace applications, permitting to bring a scientific research to a commercial industrialized product and service.
  - Currently Spacemind is developing two important products, besides offering a wide range of services:
    - ARTICA: a plug and play deorbiting sail for Cubesat application.
    - MORAL: High performances ALT-AZ mount for 1m class telescope and pointing instrument.
- *No direct experience in H2020 but can rely on competent consultant (CRIT Srl)*

## Qcomm Mission

- *Nanosatellite CubeSat mission for obtaining secure space communication, based on quantum key distribution*
- *Value added:*
  - Improved performance in terms of communication range (no distance limits)
  - Physically-logistically complicated to interfere with signal
  - Low investment needed – easy to create a sustainable business model (2MLN Eur as turnkey solution once industrialised)
- *Challenges:*
  - Optics & quantum generator miniaturisation for satellite integration
  - Performance assurance
- *Technical partners:*
  - Universtiy of Padua



The idea can be integrated in an existing proposal