

MALICIA

Fri, 2012-03-23 15:49 - [Lukas Theussl](#) **Full Name:** Light-Matter Interfaces In Absence Of Cavities
Coordinator: Prof. Francesco Saverio Cataliotti

Location

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43° 46' 7.4352" N, 11° 15' 24.8436" E

Website:

<http://www.maliciaproject.eu/>

Running time: 2011-02-01 - 2014-01-31

This project aims at the creation of robust and scalable quantum interfaces between different platforms for the implementation of Quantum Technologies. We will focus on interfacing interaction or measurement induced quantum resources in atomic matter to light fields, based on less demanding alternatives to cavity-enhanced interaction of light with single ultracold atoms. For some applications we even plan to use thermal atoms which allow for a further reduction in the experimental complexity. To this end we want to push the evolution of Quantum Technologies further towards technologically scalable quantum devices. We will realize quantum devices and interfaces based on Rydberg blockaded gases, quantum gases and room temperature gases in microfabricated structures as well as the full theoretical framework for their description. The new expertise emerging from our project will provide a platform for progress in Information and Communication Technology (ICT) towards real-world deployment of quantum repeaters for long-distance quantum communication.

- [EC - FP7](#)
- [STREP](#)
- [Quantum Metrology, Sensing and Imaging](#)

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