

By Raffaele Vergnani / Updated: 21 Nov 2018

Quantum computers as a support to urban mobility management

Submitted by Raffaele Vergnani on 19 Nov 2018

Picture:



Region:

Southern Europe

Country:

Spain

Topic:

Urban mobility planning

Link:

[Computer quantistici in aiuto della mobilità urbana](#)

Body:

The management of the evolution of mobility requires the use of increasingly sophisticated equipment and to meet the growing needs of urban planners and transport providers, the Volkswagen group is testing works on quantum computers to help reduce congestion and optimise traffic flow.

Thanks to these advanced calculators, for the first time specialists have been able to develop a traffic management program capable of replacing urban flow forecasts with much more accurate calculations. This will certainly benefit public transport companies, taxis and transport service providers, who will then be able to use their fleets much more efficiently, while at the same time reducing waiting times for passengers. This is made possible by the use of quantum computers that can solve very complex tasks, such as traffic optimisation, much faster than traditional supercomputers, and the company sees considerable potential in using this cutting-edge information technology to create new applications and business models.

In order to develop new traffic management systems, specialists first use conventional computers to analyse anonymised motion data from smartphones or transmitters in vehicles, and then calculate the traffic accumulation and the number of people involved. In the second step, that of optimisation, the quantum algorithm comes into play. In this way it becomes easy to assign a precise number of vehicles to different "request points" on a predictive basis, efficiently meeting the transport needs of the moment to all waiting passengers.

The specialists intend to test the algorithm first in Barcelona where there is already a suitable database. At a later stage, the algorithm could be used in other urban contexts and adapted to the size of each city.

Image source: © Pajor Pawel/ Shutterstock.com - *no permission to re-use image(s) without separate licence from Shutterstock*

Related news:

New agency to supervise Galileo agreed by the Council