Innovative scooter renting service now powered by Galileo

MOTIT — an electric scooter renting service made available by means of a dedicated app — has come a long way since its launch in Barcelona in 2013. The system is will soon be available in Milan and is being tested in Paris. But this growth didn't come without improvements. Complaints from users having difficulties in locating their scooters have led to the conception of a Galileo receiver and its integration into MOTIT scooters as part of the G MOTIT project.

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Since Uber, BlaBlaCar and other similar services have become a thing in Europe, citizens have had a chance to familiarise themselves with the concept of GNSS-powered apps that help them travel from one place to another. Around the same time, European cities have made themselves a bit greener by providing bike-renting services, where users pick up a bike from a station and drop it off at another one close to their destination.

MOTIT brings you the best of both worlds. Since 2013, this Web 2.0-stamped idea has provided citizens of Barcelona with an app that hosts a full-blown scooter-renting service with a twist of green mindset. Unlike most scooters you'd see elsewhere, MOTIT scooters are fully electric. They can be started up with a smartphone, are provided with two helmets and oh, they can be picked up from pretty much anywhere in the city. No more finding the nearest station and walking from there, the MOTIT user can just drop the scooter off wherever he pleases — be it in front of his workplace, house or favourite shop. Once left behind, the scooter is available for pick-up by the nearest MOTIT subscriber looking for a ride.

What MOTIT still lacked until now, however, was a precise positioning system that would help users locate their scooter more accurately than GPS did.

This is where G MOTIT (Galileo-Enhanced MOTIT: an electric scooter sharing service for sustainable urban mobility) makes its entrance. Looking for a real-life application that would allow the European Commission to appeal to potential Galileo users, the project was born from the observation that the European GNSS service was exactly what MOTIT needed to keep its users happy and enable its development in other European cities.

Of all solutions to tackle issues related to higher traffic levels in cities, why did you choose to invest in MOTIT?

Marti Jofre: The service was interesting for two main reasons. The first one is that MOTIT had already demonstrated a real need for improved localisation performance to enhance user experiences in an existing service, that is, helping users find their scooter. This is precisely what we were looking for, as the European Commission wanted to demonstrate the benefits of the Galileo satellite navigation system for real services.

Then, we also found MOTIT very innovative at the time, even though it's true that other similar services had been launched over the previous months. There are many innovative and interesting aspects about MOTIT: First, everything is done by means of a smartphone, including activation of the scooter. The scooters are also electric, ensuring a comfortable and environment-friendly driving experience for users; and they can be parked like any private vehicle without having to look for dedicated stations — which avoids expensive investments and public space occupancy for charging infrastructure.

Other innovative aspects included the helmet already available with the scooter and, finally, that using a scooter is a fast way to travel in the city and avoid traffic jams, all this while allowing for a combination with public transport for last-mile trips.

What would you say are the main barriers to its greater success?

Actually, besides the localisation issue mentioned earlier, the main barrier for many users is the type of vehicle selected by MOTIT. Using a scooter in highly-populated cities can be a concern for users because of safety issues, but weather can also be an issue: MOTIT is a service that clearly has more potential in sunnier countries such as those in the Mediterranean.

Did you receive much negative feedback about the limitations of GPS technology in tracking the nearest available scooter?

Yes, and this feedback came both from the operator involved in the project and from other operators. Some of them have excluded certain areas of the city for offering the

service, because of bad positioning performance impacting user experiences. This is mainly a problem in narrow streets of old districts.

How does your Galileo receiver provide an answer to these problems?

Galileo, in combination with GPS and other satellite navigation systems, will provide increased availability of satellites and new signals. All in all, we expect that its use will result in improved availability, accuracy and reliability of the position computation.

Concretely, the project consisted in replacing MOTIT's GPS standalone receiver with a Galileo receiver fully integrated in the electronics of the motorbike. So G MOTIT was not a basic research project focusing on algorithm development, but it rather focused on technology integration and demonstration for a relevant use case.

The demonstration in Paris has just started. Any learnings or feedback so far?

We began with the demonstration in early December. The project was extended up to March 2017, and users in Paris can already benefit from the improvements brought by the new Galileo receiver. It's too soon to give any feedback on this demonstration, but we certainly hope that, once concluded and as soon as we obtain a commercial agreement with the operator, the new system will be deployed for users in Barcelona as well.

What are the next steps now that the project is almost completed?

We will try to commercialise the technology among other sharing operators. Car sharing one-way services could also be interested in this technology, just like other mobility on demand services such as ridesharing, microtransit, etc.

G MOTIT
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http://cordis.europa.eu/project/rcn/193832

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