



Blockchain and the City Challenge Use Case Summary

*Events hosted by La Ruche Industrielle, Lyon, France
17 October Introduction and Workshop
13-15 November Hackathon and Workshop*

Incentive platform for e-mobility



Challenge context: carbon-free e-mobility and multi-services platforms for communities.

Blockchain technology is able to improve the user experience of electric vehicles and multi-modal transport. Further, it can facilitate the creation of a platform to manage transportation habits in a city and promote virtuous ones. Based on the mobility behavior of users, this platform can gather a wide range of user profiles, giving access to a variety of services at a differentiated price.

Using blockchain for decarbonized and responsible e-mobility, is valuable: the high number of transactions in interaction, multi-actor system, traceability and resilience needs make blockchain an ideal technology for such a platform. Moreover, if obvious arguments make the use of blockchain attractive for corporates, benefits are much less tangible from the customers' point of view. This use case for the Trusted IoT Alliance's Blockchain and the City Challenge launching in September 2019, allows the exploration of this aspect of blockchain that is decisive for users: incentive schemes through tokenization.

This use case is valuable as it could help to overcome major hindrances linked to blockchain and also connection to the hardware layer through connected things: token valorization, billing of microtransactions, interactions between blockchains, data authentication and exchange format, security and scalability.

Challenge expectations: Develop incentive schemes for decarbonized and responsible e-mobility with blockchain

With the aim of registering users behaviors linked to mobility on a blockchain and identifying the ones that are virtuous (thanks to tokens, for example), the blockchain created for the Challenge should be able to integrate different users profiles and be associated to other blockchains. Indeed, the goal is to enable virtuous users to unlock a wide range of services. This platform and its related smart contracts would federate multiple actors and develop infrastructures thanks to a common payment system.



Therefore, we expect a blockchain-based system including tokens to develop incentive schemes for users to engage in virtuous environmental and social behaviors, such as private charging terminals, responsible and energy-efficient driving, car-pooling, car-sharing, green urban transport, and so on. Tokens can be used to pay for services related to e-mobility that we would like to promote (including green transportation charging, parking, museums, and so on. Value should be brought to tokens by ensuring that there is an incentive to reuse them (such as loyalty points, for example).

Assets required:

Hardware

- Laptop;
- Smartphone.

Digital assets

- Blockchain: Ethereum stack

People/skills

- Developers for blockchain platform programming
- Developers web front-end and back-end
- Designers for user interface

FAQs:

Why is EDF organizing a decarbonized e-mobility blockchain use case?

EDF is the world's No. 1 electricity company. The Group is an integrated energy company, present in all areas of the electricity business: nuclear, renewable and fossil production, transmission, distribution, sale, energy efficiency and management services, as well as energy supply. EDF is the leader in low-carbon production: No. 1 producer of nuclear electricity in the world, No. 1 producer of renewables in Europe.

EDF has a strong expertise in key themes related to the use case: electric mobility, smart city and blockchain. Numerous projects are developed. In December 2017, the PoC Oslo to Rome is a vivid example of EDF commitment: an e-car was travelling around Europe to test crossborder charging network based on blockchain technology and using a shared version of technology developer MotionsWerk's e-mobility wallet.

How will EDF support the Challenge?

EDF experts on blockchain will attend the La Ruche hackathon in Lyon to provide coaching and to share their expertise.

Should you have any questions :

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