



**GREENFLUX SERVICE &
OPERATIONS PLATFORM:
AN IOTA SOLUTION**

GreenFlux and ICT Automatisering are partners in the development and operational control of a cloud system for managing the charging infrastructure. This is an excellent example of an Internet of Things application.

The Market trends

The market for electric vehicles is booming. People are attracted by the possibility to use renewable energy to drive their cars in an environmental friendly way.

The relatively short distances in the Netherlands are well suited for electric transport; The Netherlands also has an extensive and reliable electricity grid. Not surprising therefore that new models of electric vehicles (EV) are the first to be released in the Netherlands. With the recently introduced EV with a range extender, the share of EV's in the market is growing rapidly.

One of the characteristics of electric vehicles is that they need to be charged regularly. Therefore GreenFlux is implementing a broad network of charge points. They are for instances placed nearby hotels and restaurants along the Dutch motorways which allows drivers to, do others things while charging the EV, such as enjoying a mail, have meetings, or work on WiFi hotspots. In addition, GreenFlux also places charge point at home and at work. With GreenFlux at home, at work and on the move drivers can always charge EV's simple, fast and inexpensive!

The Requirements

For GreenFlux sustainability and green energy are paramount important. Electric charging is a critical factor for the successful usage of the electrical vehicles. The charging process needs to be reliable and always available for the user. Another key factor is that electrical vehicles demand an increasing amount of charging load. With new technologies used in the cars today the average load per charging session is rapidly increasing to 22KWh and beyond. Therefore it is also important to balance and predict the power consumption for the Grid suppliers.

GreenFlux uses a complete central solution, which manages the total charging infrastructure and uses intelligent prediction algorithms to smartcontrol the power consumption The GreenFlux Service and Operations Platform (GSOP) is developed and services by ICT Automatisering (ICT)

The result

The GreenFlux Service & Operations Platform is a SaaS solution; it runs completely in Microsoft Azure and therefore it has a high performance, availability and scalability. It consists of

- Infrastructure Provider Modules
- Management and control of the Charge Points
- Service Provider Modules
- Smart Charging Modules
- Management Portal
- Customer and Service Portals
- App interfaces

ICT Automatisering (ICT) is the product development partner for GreenFlux for the design, construction and operational management of the GreenFlux Service and Operations Platform. This platform is an excellent example of the combination of Embedded Technology and Cloud and forms the basis for a Predictive Charging Grid.

Hans de Boer, CEO of GreenFlux: "Electric transport is playing an increasingly important role in our society. It is important for users to charge their vehicle wherever they need to, for example at work, at home or during a business meeting. This requires a reliable network, allowing users to drive throughout the Netherlands without worrying. Our choice for ICT is because of their knowledge of Smart Energy, the knowledge of Embedded Devices Smartly connected to the Cloud and the automotive industry. In addition, ICT has the necessary embedded expertise to access the charge stations that supply electricity to the cars."

