



ELECTRIC AVIATION SUSTAINABLE & ATTAINABLE

Charging Plaza International Airport Teuge Europe's first smart charging field lab

INVITATION FOR PARTNERSHIP

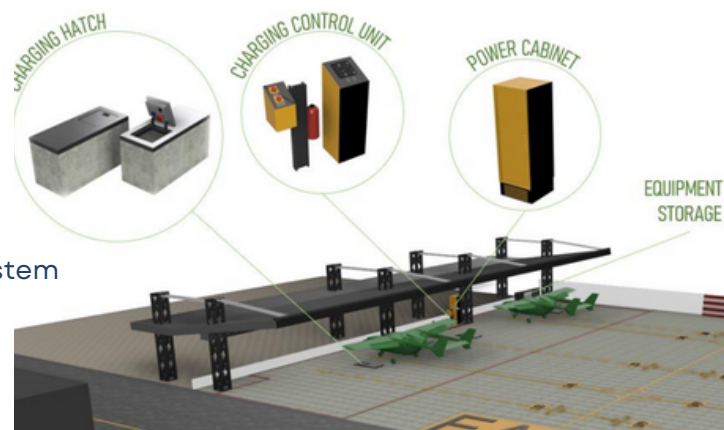
The Green Transport Delta - electrification (GTD-e) has the goal to realise a future-proof sustainable transport and mobility system. Several projects aim to develop the R&D position in battery electric transport, including a competitive supply chain. This ambitious project will develop a world class test environment for charging electric planes and the integration of chargers in airport operation for 100% sustainable aviation. This includes the development of scalable MW charging solutions together with partners like E-Flight , E-Laad , Heliox and the Battery Competence centre Brainport. This project will create the ideal test environment to create state of the art ground operation solutions for electric aviation.

SCALING UP THE CHARGING INFRASTRUCTURE

Knowledge development will be the main activity at the coming charging plaza at Teuge Airport. One of the main activities will be the development of the chargers at airside to provide electric aircraft with energy. Smart, modular and bi-direction energy systems will account for the infrastructure of the future. Also the interaction with connected energy infrastructure has the focus. Such a energy system must interact in an environment with solar PV panels, chargers at landside and the local energy grid. In this way, the whole energy system at airports of the future can be tested.

This work package will investigate, develop and then validate such an energy system in various use cases. One of the use cases is the use case 'Charging for aviation'. The focus here is on the **practical validation of a modular and smart charging plaza for aviation application**. Several issues are being researched and developed, namely:

- Integration between different chargers
- Interaction between different types of electric aircraft
- Validation of e.g. CCS plug applications in aviation
- Validation of OCPP protocols for aviation
- Integration of such a charging platform in an energy system



This practical validation will be performed at Teuge International Airport, where E-Deck was recently opened: a **campus for electric aviation**. Here, 10 companies from the aviation and energy infrastructure sector will join forces to give an impulse to sustainable aviation in the Netherlands. By joining forces, the Netherlands can remain a frontrunner in the transition from traditional to sustainable aviation. By placing the test charging plaza next to E-Deck, **we will create a test plaza integrated into a local energy management system at an airport (BESS, charging stations, PV panels, software, etc)**. A blueprint will be developed for local energy management systems for airports that can serve for the upscaling of the > 2,000 airports in Europe.

E-DECK TEST ENVIRONMENT



INVOLVED PARTIES

By building knowledge bridges between parties from (sustainable) aviation and parties from the energy infrastructure, knowledge of the aviation sector is combined with already acquired knowledge of setting up energy infrastructure. Parties within GTD-e exchange knowledge and experience and invest materials and man hours to realize this practical validation. Within the aviation sector, the E-Flight Academy is the first fully electric flight school with the most hours of experience operating electric aircraft in the world. Aircraft manufacturers such as InHolland Dragon Fly and Maeve Aviation are also involved, as is research and knowledge institute Dutch Electric Aviation. ElaadNL, being a research institute, has numerous test facilities for charging behaviour and charging infrastructure integration. Further, Heliox is specialized in the development of (high power) charging equipment. All of these parties together with other international front runners collaborate at E-Deck.

THE ADVANTAGES OF DEVELOPING TOGETHER

To stimulate the development of a smart charging plaza, various parties are working together by investing knowledge, equipment and time. Participation in the charging plaza project is always encouraged where possible and entails various benefits. To name a few:

- Development of the **whole energy system at an airport** (planes, cars, storage, PV, etc.)
- Being involved in the development of the **first charging plaza for aviation**
- Access to the test environment at **E-Deck**
- Charging cpawith speeds up to **300 kW** at the charging area for planes and outlook to **MCS** charging (Mega Charging System Ready)
- Availability of charging and energy data of **>1.100 hours flown electric**
- Staying ahead in the electric flying market
- Access to (field) experience and resources of other **experienced companies within GTD-e**
- Access to **fundings** for cost effective R&D and testing

Partners are welcome...

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INTERESTED IN THIS PROJECT? PLEASE CONTACT US! WE ARE ALWAYS OPEN FOR A CHAT TO DISCUSS POSSIBILITIES.

