

Press release e-Genius Team 10/04/2011

e-Genius, winner of the Lindbergh Prize for quietest aircraft and second winner of the NASA/CAFE

Green Flight Challenge 2011.

The e-Genius Team is honored to participate in the NASA/ CAFE Green Flight Challenge 2011.

Development of electric aircraft is a major field of research at the Institute of Aircraft Design, University Stuttgart. Since the beginning of the solar-powered motorglider project icaré 2 in 1994 we have been gathering valuable flight experience with electric aircraft. With the e-Genius prototype, now performance can be demonstrated which was formerly reserved for conventionally powered aircraft, while being more efficient than any other aircraft before.

The e-Genius has evolved from the Hydrogenius fuel powered airplane project which won the Berblinger Prize 2006. The prize-winning concept was optimized by the University of Stuttgart's aircraft design specialists under the leadership of Prof. Voit-Nitschmann, head of the Institute of Airplane design at University Stuttgart. Due to a long standing working relationship and exchange of experience between the solar flight pioneer Eric Raymond and Prof. Rudolf Voit-Nitschmann and based on the suggestion of Eric Raymond it was decided to build up a team under the leadership of Eric to participate at the forthcoming GFC 2011.

When the famous glider pilot Klaus Ohlmann was asked to be pilot at the GFC he agreed happily. Klaus has set 48 World Records, including one with the solar powered airplane icaré 2, which was designed and built 15 years ago at the Stuttgart University. The pilots for the Green Flight Challenge are Klaus Ohlmann and Eric Raymond

During test flights less than 39 kWh of electric energy had been consumed to fly the GFC task. This equals an energy consumption of gasoline of 360 passenger mpg. The average speed during the competition must to be at a minimum 100 mph.

The propulsion system, exclusively developed for the e-Genius, has a power of 65 kW and a battery capacity of 56 kWh. The total weight of the propulsion system consisting of motor, motor controller, battery and battery monitoring system and safety systems is only 336 kg (741 lb).

The financial support of honorary senator of the University of Stuttgart Artur Fischer enabled the beginning of the development of Hydrogenius in 2007. Further support from Airport Stuttgart allowed the core team to continue the work. Finally with the sponsoring of Airbus in the fall of 2010, the production of the now renamed e-Genius was started. Since the beginning of the production phase in October 2010 until the first flight on May 25, 2011 the two-seat airplane as well as the entire propulsion system were produced, tested and put in operation within only 8 months. This exceptional achievement was only possible through the tireless efforts of the team under leadership of Prof. Rudolf Voit-Nitschmann and his assistants Len Schumann and Steffen Geinitz. The team consists of students, researchers and employees of the University of Stuttgart and external specialists who worked numerous nights and weekends to realize this project within this short period. The

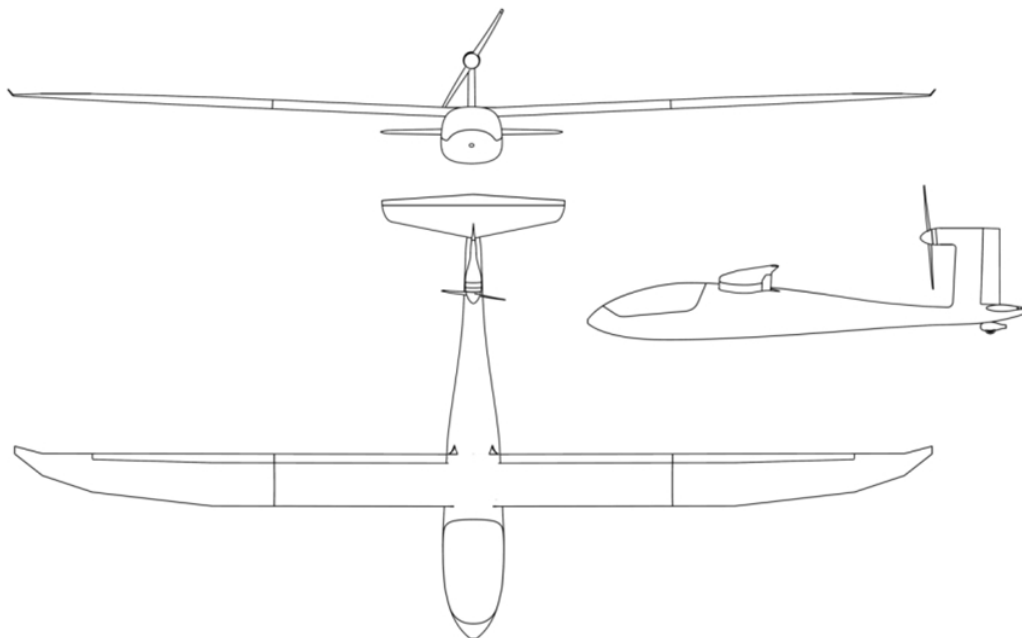
production was led by aeronautical engineer Karl Käser who is also an alumni of the University Stuttgart.

The main sponsor of this project is Airbus followed by the premium sponsors Windreich, Flughafen Stuttgart, Artur Fischer and the Friedrich und Elisabeth Boysen-Stiftung. No single sponsor provided more than 20 % of the whole project cost. All sponsors are listed at the e-Genius webpage.

The team was supported among others by the technical partners Steinbeis Flugzeug- und Leichtbau, Schempp-Hirth Flugzeugbau, DG Flugzeugbau, Pipistrel and Grob Aircraft.

We believe the history of electric flight will include a chapter about the e-Genius which would not have been realized without the Green Flight Challenge.

We would like to express our thanks to NASA and CAFE for their great effort organizing this unique event.



1

Specifications:		
Wing span:	55/16,86	ft/m
Wing area:	152/14,1	sqft/m ²
Length:	27/8,1	ft/m
Wing rootchord:	37/0,95	in./m
Aspect ratio:	20,2	
Mean aero. chord:	33/0,833	in./m
Elevator span:	11/3,36	ft/m
Elevator area:	20/1,91	sqft/m ²
Empty weight:	1675/760	lb/kg
MTOW:	2094/950	lb/kg
Payload:	400/180	lb/kg
VS0:	50/82	mph/km/h
VS1:	55/89	mph/km/h
TOFL (15m obst.)	1486/453	ft/m
LFL (15m obst.)	1141/348	ft/m



Photos by Dave Leedom



Photos by Irina Raymond

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