



DEPARTMENT OF AUTOMOTIVE AND AERONAUTICAL ENGINEERING

Modeling of a Turboprop Driven Aircraft using PlaneMaker for Flight Simulation with X-Plane

Task for a *project*

Background

X - Plane 10 (**X-Plane 2012**) is one of the most realistic commercial flight simulators available in the market as it calculates forces on the aircraft in real time using blade element theory. The simulator separates the aircraft model into many sections which are analyzed individually in real time. Analysis results of each section are simultaneously combined and used to simulate the behavior of the aircraft.

Task

In this project a turboprop driven aircraft will be modeled using PlaneMaker 10 (**PlaneMaker 2012**). This completed aircraft model will be used for flight simulation with X-Plane 10. In detail, the following tasks shall be performed:

- Familiarization with X-Plane 10 and Plane Maker
- Modeling of the turboprop driven aircraft with Plane Maker 10 according to the provided aircraft geometry
- Creating an interface between Plane Maker 10 and the turboprop aircraft design tool
- Conducting a basic flight test with the completed model

The report has to be written in English based on German or international standards on report writing.

References

- PlaneMaker 2012** URL: http://wiki.x-plane.com/Category:Plane_Maker_Manual (2012-07-12)
- X-Plane 2012** URL: <http://www.x-plane.com/desktop/landing/> (2012-07-12)