



DEPARTMENT OF AUTOMOTIVE AND AERONAUTICAL ENGINEERING

# Contributions of Air Cargo to Today's and Future Intermodal Freight Transport

Task for a *Project 2*

## Background

Air cargo differs in many ways from other modes of cargo transport, i. e. by truck, rail or ship. This results largely from the fact that freighter aircraft very often are converted passenger aircraft and that much cargo is transported in the confined lower deck compartments of passenger aircraft. This leads to a great amount of handling (e. g. re-packing of air cargo containers) needed when integrating air cargo into an intermodal cargo chain causing high handling costs and financial penalties. This project is part of the aircraft design research project "Green Freighter" ( <http://GF.ProfScholz.de> ).

## Task

The project task is to support the development of new freighter aircraft configurations by describing the various types of today's cargo transport and pointing out needs and possibilities of improvement.

The task includes

- a description of the air cargo chain including means of transport and interface points,
- a survey of container types used in air and other types of cargo transport,
- a comparison between different modes of cargo transport regarding costs, time, environmental issues, standardization, handling and interfaces,
- a conclusion highlighting possible developments of a specially designed freighter aircraft with respect to the design of the fuselage and the cargo compartment.

The report has to be written according to German DIN standards on report writing!