Capabilities of a Future Primary Flight Display Instrumentation for Helicopter In Flight Tasks

Background:
The project Helicopter Shipdeck Operations (HELIOP) is developing technologies with practical augmentation concepts that will help pilots to guarantee a straight navigation of a helicopter to its landing platform, a moving ship deck. To achieve reduced pilot workload and increase flight safety during flying towards the ship deck, a pilot fitted and intuitive presentation of the helicopter parameters and outside world events are required using displays in the cockpit.

Scope of Work:
This bachelor thesis / team project (Semesterarbeit) / Master Thesis focuses on an “out of the box” design, integration, and test of a new on-board system concept for helicopter in-flight operations. For the Human Machine Interface (HMI) integration of designed novel Primary Flight Display (PFD), an existing PFD design can be used as a starting point. Modifying displayed information and adding further needed information to the display using a well-documented design tool, offers a fast integration of new ideas for testing. Design and integration may lead to a test campaign situated at the Rotorcraft Simulator Environment (ROSIE).

Skills:
1. Knowledge of matlab
2. Knowledge of basic programming
3. Helicopter flight physics knowledge is an advantage

Tools:
Flight Simulator, Instrumentation Design Tool

Language:
German or English

Start:
Flexible

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Figure: Rotorcraft Simulation Environment (ROSIE) in flight with Cockpit Instrumentation