

Thesis Proposal

Monitoring of Clamping Force in Screw Joint



Description

ADB Safegate design and sell light fixtures used on airfields all around the globe. The market has during the last years shifted more and more towards using LED-based fixtures instead of the traditional incandescent fixtures with power savings as one of the biggest gains. Another substantial gain is that the requirement for maintenance is drastically reduced since the LEDs last for years instead of months for the incandescent bulbs. ADB Safegate offers a control and monitoring system for the light fixtures that monitors and controls the light output and the status of the fixture. One of the remaining maintenance tasks is to regularly check the torque of the retaining screws for light fixtures installed in the runway or taxiways. This is very time consuming since it's normal that an airfield has +10 000 fixtures installed. To help our customers to reduce this maintenance time ADB Safegate would like to investigate if it's possible to monitor the clamping force in retaining screw joints for the light fixture. If it's possible this functionality could be added to the existing control and monitoring system. The aim of this master thesis is to perform a concept study to investigate the possibility to continuously monitor the clamping force or the torque of the screw joints. The thesis is most suitable for two students working together. It will be based in Malmö and may also include visits to other offices.

Tasks within the project:

- ▶ Concept study / Conceptual design
- ▶ Prototyping
- ▶ Verification testing
- ▶ Adapt interface to existing products.

Suitable skills and interests:

- ▶ Mechatronics
 - Knowledge or interest in sensors
 - Some knowledge in mechanical design
- ▶ Some practical skills, some hands-on assembly, modification or testing is needed.

Application

Please send your application by December 1st 2017 to thesis@adbsafegate.com.

Title your email "**Master Thesis – Monitoring of Clamping Force in Screw Joint**"

www.adbsafegate.com

