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Vortragstitel Integrated Cabin-Cargo Maintenance for Optimised Commercial Utilisation

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Abstract

Airlines face a dual operations objective/ target, i.e. achieving flight safety goals set by the certification authorities, and achieving commercial viability goals set by the airline itself. This dilemma presents a real challenge to ensure simultaneously both flight safety and commercial viability.

Some underlying concepts are outlined that are suitable to be employed towards achieving this dual objective/ target. A common performance objective/ target is defined in terms of an Operations Readiness Objective (ORO). This incorporates both the Commercial Services Readiness (CSR), i.e. revenue earning, and the Safety Objective Readiness (SOR), i.e. flight safety, objective/ target respectively. An integration of both the safety objective and commercial services is possible by relating both of them to their constituent functions. Initially the owner/ operator defines a reference readiness performance objective/ target. During operation the current, actual performance status/ condition is assessed and compared to this reference to determine any possible deviation. This deviation drives the integrated maintenance to restore the readiness status/ condition in accordance with the reference readiness objective/ target.

An implementation approach is presented for a cabin-cargo environment, based on the underlying concepts. This approach offers a generalised framework with which similar applications can be implemented. Reference is made to a specific implementation that demonstrates some of the concepts such as a Commercial Dispatch Readiness (CDR) performance objective. The implementation approach shows how the integrated maintenance is implemented as the common enabler to achieve both the individual safety and services performance objective, as well as the overall performance objective.

An appraisal concludes that this approach represents a new and novel approach for driving an integrated maintenance towards enabling achievement of predefined commercial and safety performance objectives/ targets. It also indicates the potential to extend the concepts to other similar applications, e.g. transportation, industrial plants, and others, where an optimised performance of both safety and revenue is to be realised simultaneously.