



8. NLR; National Aerospace Laboratory The Netherlands

Contributions to GRAIN2

KGT 4 leader
KGT3 contributor

GRAIN2

NLR – National Aerospace Laboratory The Netherlands:

- Research Institute, headquarter in Amsterdam, The Netherlands
- NLR is the main aerospace research institute in the Netherlands. The overarching objective is to render aviation safer and more sustainable and efficient.

Technical contribution:

- KGT3;
 - Determination of the relation between operational usage and deterioration, validation of design loads, assessment of operational loads for usage, inspection, modification and maintenance advice.
Structural Health Monitoring. Design and development of data management systems for aircraft health monitoring
- KGT4; Air Traffic Management and Communication, Navigation and Surveillance systems.
 - Safety, human performance, training, environment, ATM systems, procedures and operations, aircraft operations and systems and research methodologies

Projects:

- SESAR: European ATM Research programme
- FABEC: Central European Air Navigation Services harmonisation programme
- ARTAS: European ATM surveillance Tracker And Server
- MAREA: Mathematical Approach towards Resilience Engineering in ATM
- Pro-GA: Probabilistic 4D trajectories of light General Aviation operations
- ACF: Airport Capacity Forecast
- IMET: Investigating the optimal approach for future trajectory prediction systems to use METeorological uncertainty information
- WakeNet (wake vortex research)
- AHMOS I + II: European program Active Health MONitoring System
- National Research Program on Fleet Life Management and SHM
- SARISTU: Smart Intelligent Aircraft Structures

Future activities:

- Powerful Emergent Behaviour In ATM
- Airborn Separation Assurance Systems (ASAS)
- 4D Trajectory Based Operation systems and procedures
- Advanced competenced based training
- Advanced Load Monitoring, damage/event detection on an aircraft wing structure (optical fiber, acoustic emission)
- Evaluation of CVM for different air structure material (e.g. composite material)
- SHM Design Toolbox for fast sensor network design

Selected Publications:

- For information and publications visit: <http://www.nlr.nl/>

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