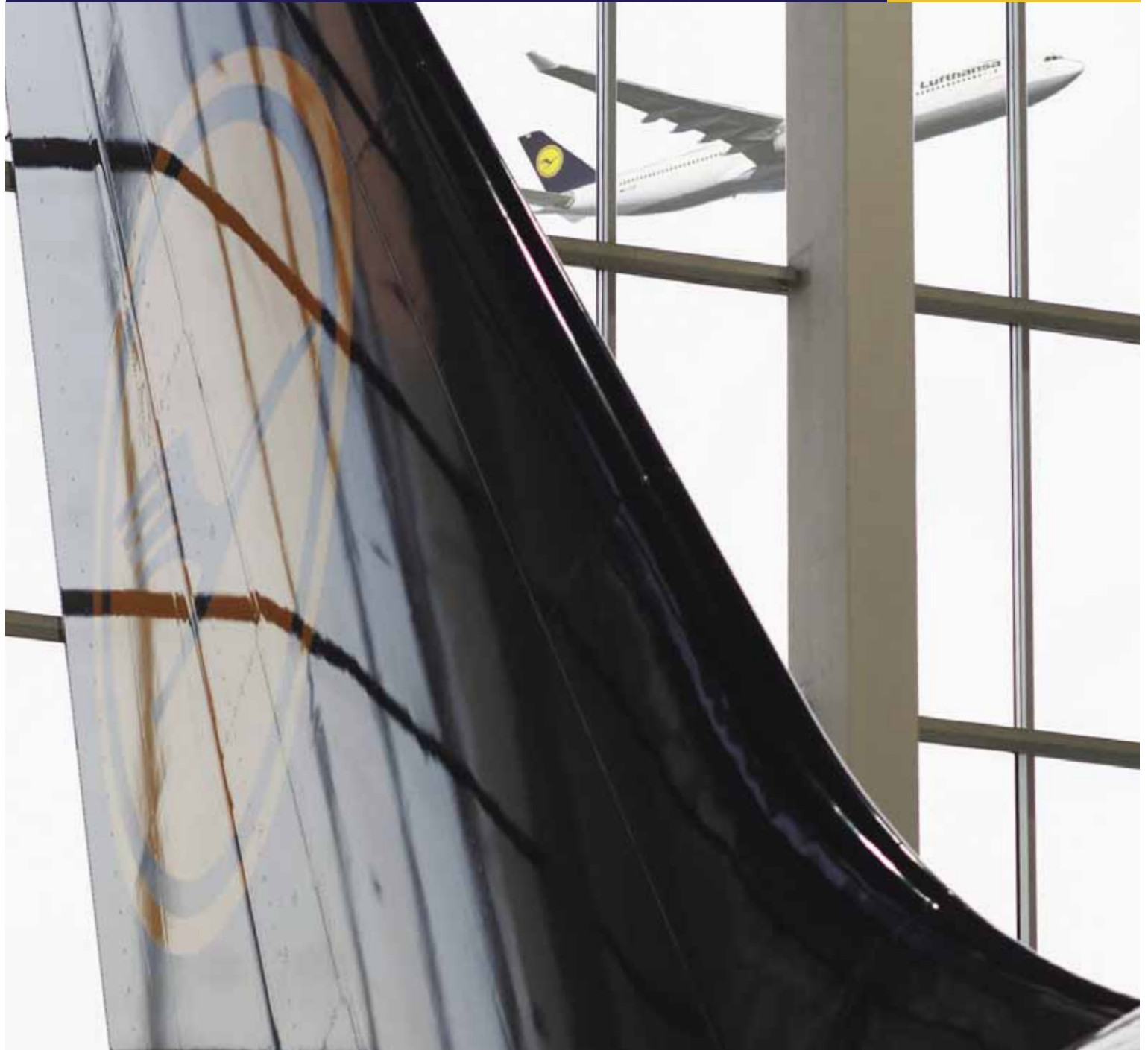


Maintenance Management & Engineering Training



Lufthansa
Technical Training

Quality based on experience

Maintenance Management & Engineering Training

Who should attend

This maintenance management training is addressed to engineering and management functions within aviation organisations dealing with...

- > Continuing Airworthiness Management
- > Aviation Engineering
- > Maintenance Management
- > Supply Chain Management

Choice of trainings

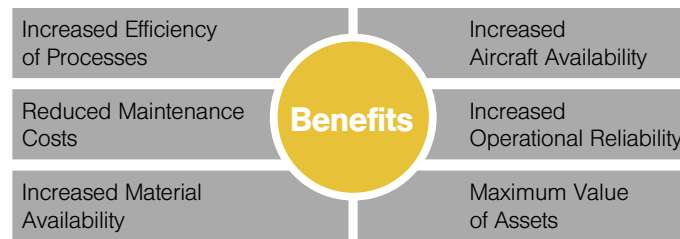
You can choose from a variety of trainings which either give a comprehensive overall view of engineering processes or allow to go for specific and more detailed technical processes.

Objectives

Main objectives of this range of training are

- > to inform about principles and connections regarding the subjects involved
- > to put the participant in the position to successfully plan and implement new, or improve effectiveness of existing processes and reduce operational risks in his own organisation/work environment.

The training shall lead to added values in form of benefits as illustrated below:



Trainers

The trainers conducting these courses are experts being active or having been active for many years in the subject matter within an aviation organisation.

Trainings

You can combine individual courses according to your needs:



Maintenance Management & Engineering Training Courses

Specific Training

- S1** Maintenance Programme Development & Reliability Analysis
- S2** In-Service Modification & Configuration Control Management
- S3** Maintenance Planning & Production Control
- S4** Material Management & Provisioning
- S5** Aviation Auditing
- S6** Stock Management & Incoming Inspection

General Training

- G1** Aviation Legislation acc. to EASA Part-145 & Part-M
- G2** Quality Management Systems (QMS)
- G3** Aviation Standards & Documentation
- G4** Basic System Engineering Training

Management Training

- M1** Maintenance Management & Aviation Engineering
- M2** Aircraft Customisation vs. Standardisation
- M3** Supporting the Aircraft
- M4** Aircraft Asset Management

Aviation Legislation acc. to EASA Part-M & Part-145

G1

Course ID	FW607-02
Course Outline	<ul style="list-style-type: none">> Structure of Regulations> Basic Regulation (Commission Regulation (EC) No. 1592/2002)> Implementing Rule (Commission Regulation (EC) No. 2042/2003) <p>EASA Part-M – Continuing Airworthiness</p> <ul style="list-style-type: none">> Presentation of Part-M and applicable appendices> Detailed discussions of requirements and responsibilities for continuing airworthiness of aircraft and components> Further information about Acceptable Means of Compliance (AMC) and Guidance Material (GM) <p>EASA Part-145 – Maintenance Organisation Approvals</p> <ul style="list-style-type: none">> Presentation of Part-145 and applicable appendices> Detailed discussion of requirements> Further information about Acceptable Means of Compliance (AMC) and Guidance Material (GM)
Target Group	Airline and Maintenance Management and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	None
Objectives	To acquire detailed knowledge of requirements for implementation/application in the own organisation
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero



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Quality Management Systems (QMS)

G2

Course ID	X8E12
Course Outline	<ul style="list-style-type: none">> Introduction to principles of a QMS> Introduction to existing QMS standards> The quality management documentation> Quality Audits> Total Quality Management (TQM)
Target Group	Airline and Maintenance Management and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	None
Objectives	To achieve a general understanding of <ul style="list-style-type: none">> Principles of a quality management system, prerequisites to make it run successfully as well as the consequences occurring, if the principles are broken or ignored> Significance of quality management documentation> How to monitor and improve processes effectively> The management role in supporting a QMS
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	1 day

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero



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Aviation Standards & Documentation

G3

Course ID	X8E05
Course Outline	General introduction to <ul style="list-style-type: none">> ATA i-spec 2200 (Information Standard for Aircraft Maintenance)> Customised and non-customised documentation and customer originated changes> Aircraft maintenance documentation: AMM, WDM, IPC, SM, TSM/FIM etc.> Maintenance planning documentation: MRB, MPD, ALI> Relevance of MSG3 for aircraft certification> In-service recommendations: SL, SIL, TFU, AD, CN, SB etc.> Other technical documentation: MMEL, MEL
Target Group	Airline and Maintenance Management staff without aviation background
Max. Number of Participants	16
Prerequisites	None
Objectives	To acquire knowledge of the ATA i-spec 2200 and its application to aircraft documentation
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	2 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero



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Basic System Engineering Training

G4

Course ID	X8E60
Course Outline	<ul style="list-style-type: none">> Aviation standards in aircraft documentation (ATA 106, etc.)> Aircraft documentation, customised and non-customised documentation, AMM, FIM, WDM, IPC etc.> Objectives of continuing airworthiness organisations (CAMO)> Principles of MSG3 strategy for maintenance programme development and certification, COSL, CRM, ALI etc.> Engineering documentation: SIL, TFU, EO, EB, SB, SBC, AD, LTA etc.> Reliability engineering, effectiveness and continuous improvement of maintenance programme> ETOPS criteria reliability review> Component reliability review, MTBUR, MTBF, NFF> Maintenance programme task interval escalations concept> Assessment of In-service modifications, EB, SB, SBC> EO preparation – Minor/major modifications (acc. EASA Part-21)> AD-performance control> Configuration control management and configuration assessment> Pre-delivery modifications, BFE, SFE> Assessment of non-mandatory recommendations> Modification implementation workflow> Principles of maintenance planning and maintenance workflow> Aspects of job cards and work packages
Target Group	Airline and Maintenance Management staff, system engineers and aviation engineers
Max. Number of Participants	16
Prerequisites	Basic understanding of aviation standards and legal requirements EASA Part-M
Objectives	To impart fundamental understanding of significant processes within maintenance management and aviation engineering organisations
Trainers	Competent consultants from Lufthansa Group
Examination	Yes, the passmark is 75%
Duration	3 days

Contact:

Lufthansa Technical Training GmbH

Customer Service

FRA US/M-6

Unterschweinstiege 12

60549 Frankfurt

Germany

Phone: +49 (0)69 696 2751

Fax: +49 (0)69 696 6384

E-Mail: Customer-Service@LTT.DLH.de

www.LTT.aero



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Maintenance Programme Development & Reliability Analysis

S1

Course ID	X8E51
Course Outline	<ul style="list-style-type: none">> Overview of EASA Part-M requirements regarding „effectiveness of the maintenance program“> Overview of Maintenance programme documentation: MRB-Report, MPD, MS, CRM, ALI> Principles of reliability centered maintenance concepts> Principles of MSG3 analysis> Failure Mode and Effect Analysis (FMEA)> Maintenance records breakdown> Reliability parameters and analysis (delay rates, AOG rates, defect rates etc.)> Reliability reports (monthly & annual reports)> Component reliability review (MTBF, MTBUR, NFF etc.)> Analysis for “Rogue Units” and “No Fault Found” items> Reliability review board process> Analysis of the effectiveness of the maintenance programme> Principles of maintenance programme task interval escalation> Analysis of different reliability and defect reports
Target Group	Airline and Maintenance Management and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	Basic understanding of EASA regulations, aviation standards and quality management systems
Objectives	To understand the maintenance programme certification process, procedure of maintenance programme development as well as the continuous reliability improvement process
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany

Phone: +49 (0)69 696 2751

Fax: +49 (0)69 696 6384

E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero



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In-Service Modification & Configuration Control Management

S2

Course ID	X8E17
Course Outline	<ul style="list-style-type: none">> Overview of responsibilities based on EASA Part-M regarding Air Operator Certificate> Performance and control of airworthiness directives (FAA/EASA/NAA)> Manufacturer documents (SB, SL, AOT etc.)> AD and SB status reports> Implementation of a modification policy> Priority production planning and modification implementation workflow> Assessment of non-mandatory in-service modifications> Introduction to efficiency calculation methods for aircraft modification or maintenance programme changes> Introduction to configuration assessment
Target Group	Airline and Maintenance Management and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	Basic understanding of EASA regulations, aviation standards and documentation
Objectives	To understand the principles of aircraft configuration assessment and its relation to airworthiness/economical impact of modifications and maintenance programme changes
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	2 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
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60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
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Maintenance Planning & Production Control

S3

Course ID	X8E79
Course Outline	<ul style="list-style-type: none">> Conflicting objectives in aircraft maintenance> Types of maintenance> EASA Part-145 requirements for maintenance certification> EASA Part-66 requirements for certifying staff> Production planning and control for base maintenance> MRO workflow in line and base maintenance> Work package preparation and summary sheet> The way from the maintenance programme task to job card> Layover planning/planning of resources> The continuous improvement process in maintenance planning<ul style="list-style-type: none">+ Production forecast+ Control of manpower, consumables and facilities> Functions of a work order data base and defect recording> Subcontracted maintenance, duties and responsibilities> Objectives of maintenance support and maintenance control center (MCC)> Aircraft and engine condition monitoring (ACM/ECM)
Target Group	Airline and Maintenance Management, Maintenance Support, Production Planning and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	Basic understanding of EASA regulations, aviation standards and documentation
Objectives	To understand the maintenance types and concepts (line/base/block/phase/routine/non-routine), importance of maintenance information systems, layover planning and performance control as well as maintenance control center objectives and responsibilities regarding subcontracted maintenance
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
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www.LTT.aero



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Material Management & Provisioning

S4

Course ID	X8E04
Course Outline	<p>General aspects of material management</p> <ul style="list-style-type: none">> EASA Part-145 requirements for material handling and certification> The typical material supply chain> Material classifications> Provisioning times> Working with lead times> Material management in the maintenance workflow> Aspects of stock and pool management> Aspects of warranty management <p>Material planning and provisioning</p> <ul style="list-style-type: none">> Principles of initial provisioning assessment, mathematical models> Re-provisioning> Examples of quantity assessment incl. calculation of turnaround times> Service level assessment
Target Group	Airline and Maintenance Management and Material Planning staff
Max. Number of Participants	16
Prerequisites	Basic understanding of EASA regulations, aviation standards and documentation
Objectives	To understand the principles of an aviation material supply chain, stock control and service level assessment as well as stock quantity assessment and reordering and initial provisioning
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH

Customer Service

FRA US/M-6

Unterschweinstiege 12

60549 Frankfurt

Germany

Phone: +49 (0)69 696 2751

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E-Mail: Customer-Service@LTT.DLH.DE

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Course ID	X8E80
Course Outline	<p>Prerequisites for Aviation Auditing</p> <ul style="list-style-type: none">> Detailed introduction into a QMS> Introduction into EASA Part-145 incl. interfaces to Part-21, Part-M, Part-66, OPS 1> Introduction to QMS standards DIN EN ISO 9000 series incl. structure of DIN EN 9100 series> The Quality Management Documentation> Total Quality Management (TQM) <p>The quality audit process in Detail</p> <ul style="list-style-type: none">> Quality audits – general – incl. qualification criteria for auditors> Internal quality audits – planning, preparation, performance, communication, analysis, Human Factors, audit report, corrective actions and follow-up, evaluation and management reporting> External audits> Rules for auditors – and the auditee
Target Group	Quality Auditors
Max. Number of Participants	12
Prerequisites	None
Objectives	<p>To receive a detailed knowledge of</p> <ul style="list-style-type: none">> Principles of a quality management system> Interpretation and use of authority requirements> How to implement and run a QMS effectively> Significance of the quality management documentation> The complete audit process incl. related responsibilities
Trainers	Competent consultants from Lufthansa Group
Examination	Yes, the pass mark is 75%
Duration	4 days

Contact:

Lufthansa Technical Training GmbH

Customer Service

FRA US/M-6

Unterschweinstiege 12

60549 Frankfurt

Germany

Phone: +49 (0)69 696 2751

Fax: +49 (0)69 696 6384

E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero



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Stock Management & Incoming Inspection

S6

Course ID	X8E02
Course Outline	<p>Material related aspects of aviation legislation</p> <ul style="list-style-type: none">> Aspects of legislation acc. to EASA, FAA, NAA> EASA Part-145 requirements for material handling and certification> Storage basics> The typical material supply chain> Maintenance certification and associated documentation> Material classifications> Material forms> Material Stock Management> Storage conditions> Shelf live control, scrapping and life limitations> Dangerous goods storage principles> Evaluation of suppliers> Takeover of freight and unpacking> Material receiving and incoming parts requirements> Separation of serviceable and unserviceable parts> Layout of receiving area> Suspected unapproved parts> Archiving principles and traceability> Commercial, technical and documentation checks> Distribution and shipping procedures> Packaging (ATA spec 300)> Airfreight security> Material handling and storage> Inventory control> Quarantined and bulk material> Product recalls
Target Group	Maintenance & Store Management, Production Support staff and Store Keepers
Max. Number of Participants	16
Prerequisites	Basic understanding of EASA regulations, aviation standards and documentation
Objectives	To understand the principles of an aviation material supply chain, stock management and material handling and distribution
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	1 day

Contact:

Lufthansa Technical Training GmbH

Customer Service

FRA US/M-6

Unterschweinstiege 12

60549 Frankfurt

Germany

Phone: +49 (0)69 696 2751

Fax: +49 (0)69 696 6384

E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero



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Maintenance Management & Aviation Engineering

M1

Course ID	X8E14
Course Outline	<ul style="list-style-type: none">> Responsibilities and objectives of continuing airworthiness management organisations (CAMO) acc. to EASA Part-M requirements> Responsibilities and objectives of maintenance organisations (MO) acc. to EASA Part-145 requirements> Principles of MSG3 strategy for maintenance programme development and certification> Aspects of customised maintenance programmes> Reliability reports and their parameters> Analysis of fleet and component reliability reports> Maintenance programme effectiveness> Aspects of in-service modifications and configuration control management> Different approaches to „non mandatory modifications assessment“> Principles of transition management, face in/out scenarios> Maintenance records - a typical area of concern> Objectives of maintenance support and maintenance control center> The typical material supply chain> Principles of the maintenance score card approach, particularly in aircraft line maintenance> Examples for operational service level assessment> Examples/analyse of benchmarks in the operations environment
Target Group	Airline and Maintenance Management and Aviation Engineering staff
Max. Number of Participants	16
Prerequisites	Basic understanding of aviation standards and documentation
Objectives	To impart fundamental understanding of significant processes within maintenance management and aviation engineering organisations
Trainers	Competent consultants from Lufthansa Group
Examination	None
Duration	4 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero



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Aircraft Customisation versus Standardisation

- a joint seminar with AirBusiness Academy

M2

Course ID	X8E10
Course Outline	<ul style="list-style-type: none">> General customer orientation and service expectations> Legal design requirements and EASA regulations> The industrial customisation process: Definition, realisation, supplier integration, delivery, repercussion of changes, future customisation needs> What drives customisation in legacy low cost carriers> Customisation and total asset support for leasing companies> Special leasing requirements for manufacturers and operators> Customisation based on MRO's point of view> Pre- and post-delivery customisation> Customisation of the maintenance program, examples for legacy, charter and low cost carriers> Engine customisation to aircraft type> Developing an aircraft with the customer in mind – example A380> Responsibilities and obligations of customer services> Long term considerations
Target Group	Airline employees, Aircraft Maintenance and Operators staff, Engine Manufacturers and suppliers' employees
Max. Number of Participants	18
Prerequisites	None
Objectives	To learn about implications of pre-delivery customisation versus standardisation, along with changing requirements for in-service aircraft customisation
Trainers	A team of competent industry speakers and consultants from AirBusiness Academy and Lufthansa Group
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero

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Supporting the Aircraft

- provided by our training partner AirBusiness Academy

M3

Course ID	X8E11
Course Outline	<ul style="list-style-type: none">> Organisational aspects of aircraft operation support> Overview of the manufacturer's product liability> Customer support plan> Maintenance programmes and costs> Training methods and organisation> Spares support> Supplier support management> Airline viewpoint> Contractual provisions in an aircraft purchase agreement and related administrative burdens and risks> Engine support<ul style="list-style-type: none">+ Preparation of „Entry Into Service“ and+ „Total Care Support“
Target Group	Newly appointed customer service representatives who work for an Aircraft or Engine Manufacturer or for Maintenance Organisations as well as suppliers
Max. Number of Participants	18
Prerequisites	None
Objectives	You will receive a comprehensive introduction to the product support functions and its impact on long-term customer relations. You will be able to assess the financial and technical risks connected with product support commitments.
Trainers	A team of competent industry speakers and consultants from AirBusiness Academy
Examination	None
Duration	4 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero

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Aircraft Asset Management

- provided by our training partner AirBusiness Academy

M4

Course ID	X8E13
Course Outline	<ul style="list-style-type: none">> Aspects of aircraft re-marketing> The airline's buy-fly-sell concept> Leasing versus aircraft ownership> Influencing factors on management and operations> Asset based funding techniques> Technical management and support for second hand aircraft> Portfolio management> Legal aspects of asset management> Repossession and aircraft storage
Target Group	Newly appointed customer service representatives who work for an Aircraft or Engine Manufacturer or for Maintenance Organisations as well as suppliers
Max. Number of Participants	18
Prerequisites	None
Objectives	Knowledge of aircraft asset management and its role in different organisations within the civil aviation industry. Understanding of different strategies of aircraft operators, bankers, lessors and manufacturers and their objectives in aircraft re-marketing, aircraft value, financial, legal and technical issues
Trainers	Competent industry speakers and consultants from AirBusiness Academy
Examination	None
Duration	3 days

Contact:

Lufthansa Technical Training GmbH
Customer Service
FRA US/M-6
Unterschweinstiege 12
60549 Frankfurt
Germany

Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero

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Enquiry**Maintenance Management Training**

Fax: +49 (0)69 696 6384

Please send this information to us via telefax or write an e-mail so we can get in touch with you to consult you non-committally/or to give you a noncommittally offer.

Please specify the preferred appointment for a phone consultation.

Date _____ at _____ o'clock or Date _____ at _____ o'clock.

Seminar

Seminar _____

Seminar ID _____

Comments _____

Contact Data

Family Name _____ First Name _____

Department _____ Job Title _____

Company _____

Street _____

Postal Code _____ City _____

Country _____

Phone _____ Telefax _____

E-Mail _____

Date: _____

Signature: _____

Contact:

Lufthansa Technical Training GmbH

FRA US/M

Unterschweinstiege 12

60549 Frankfurt

Germany

Phone: +49 (0)69 696 2751

Fax: +49 (0)69 696 6384

E-Mail: Customer-Service@LTT.DLH.DE

www.LTT.aero



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Customer Service

Lufthansa Technical Training
Unterschweinstiege 12
60549 Frankfurt/Main
Germany
Phone: +49 (0)69 696 2751
Fax: +49 (0)69 696 6384
E-Mail: Customer-Service@LTT.DLH.DE
www.LTT.aero

International Sales Offices

North America:
Tulsa, USA
Phone: +1 918 551 7502
E-Mail: North-America@LTT.DLH.DE

Middle East & Africa:
Dubai, United Arab Emirates
Phone: +971 4 2045 737
E-Mail: MiddleEast-Africa@LTT.DLH.DE

South and East Asia & Australia/Pacific:
Singapore
Phone: +65 6735 5539
E-Mail: Asia-Pacific@LTT.DLH.DE