Sustainability of Safety Management

Rainer Lindau
Vice President Quality Management

Lufthansa Technik

Agenda

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Sustainability of Safety Management | 16th May 2014

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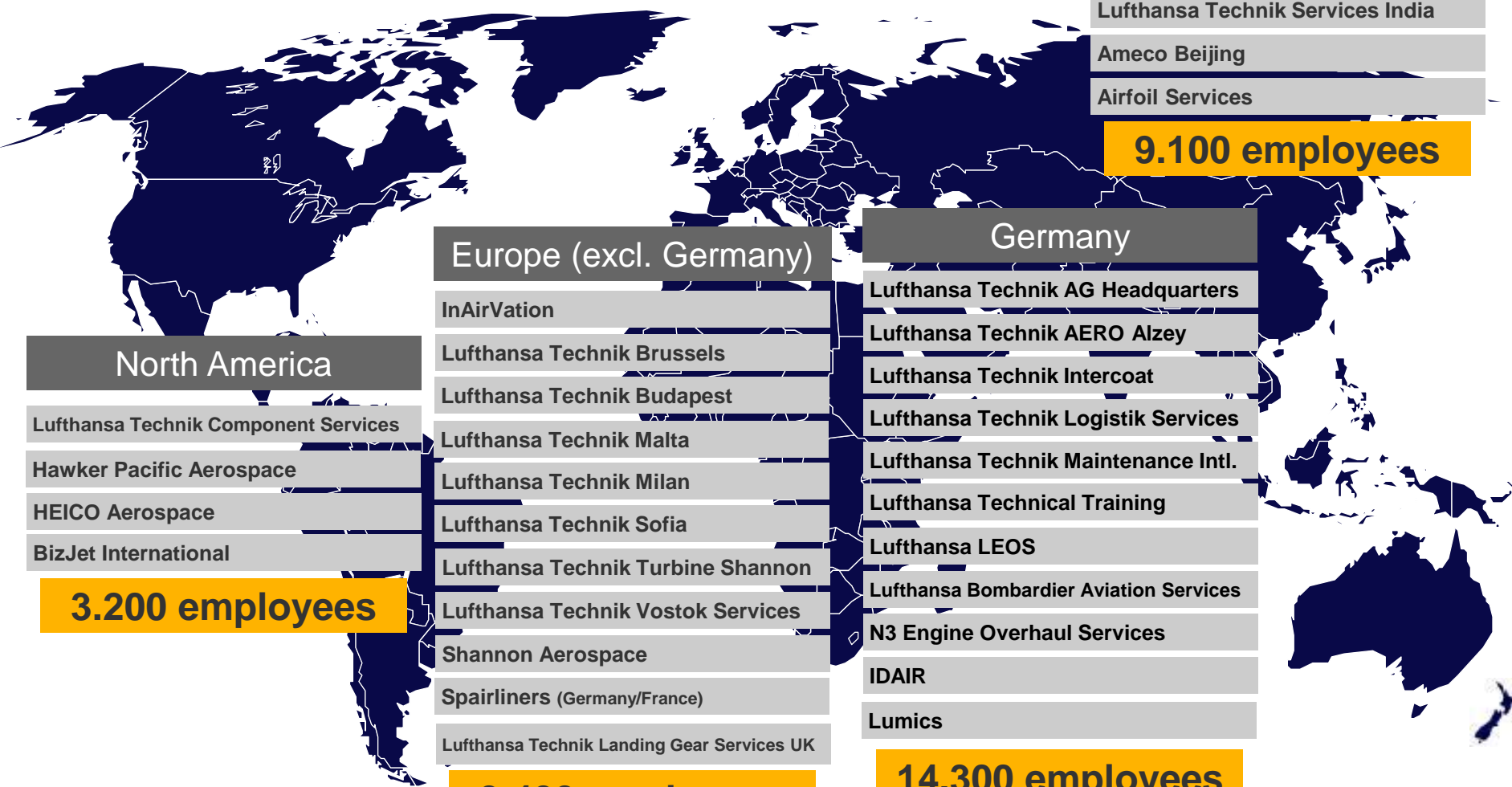
Lufthansa Technik Group
Facts & figures

- 770 customers worldwide
- 2.820 aircraft under exclusive contracts
- 1.700 aircraft inspections per day*
- 30 subsidiaries and affiliates worldwide
- 4,18 billion Euros in revenue**
- 19.917 employees worldwide**

*includes subsidiaries and services by LCY in CGN and MUC
**Lufthansa Technik AG Germany and 22 consolidated companies of Lufthansa Technik Group in 2013; employees as of 31.12.2013

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Lufthansa Technik Group
Employees worldwide

Asia

- **Lufthansa Technik Philippines**
- **Lufthansa Technik Shenzhen**
- **Lufthansa Technik Services India**
- **Ameco Beijing**
- **Airfoil Services**

9.100 employees

Europe (excl. Germany)

- **InAirVation**
- **Lufthansa Technik Brussels**
- **Lufthansa Technik Budapest**
- **Lufthansa Technik Malta**
- **Lufthansa Technik Milan**
- **Lufthansa Technik Sofia**
- **Lufthansa Technik Turbine Shannon**
- **Lufthansa Technik Vostok Services**
- **Shannon Aerospace**
- **Spairliners** (Germany/France)
- **Lufthansa Technik Landing Gear Services UK**

3.400 employees

Germany

- **Lufthansa Technik AG Headquarters**
- **Lufthansa Technik AERO Alzey**
- **Lufthansa Technik Intercoat**
- **Lufthansa Technik Logistik Services**
- **Lufthansa Technik Maintenance Intl.**
- **Lufthansa Technical Training**
- **Lufthansa LEOS**
- **Lufthansa Bombardier Aviation Services**
- **N3 Engine Overhaul Services**
- **IDAIR**
- **Lumics**

14.300 employees

North America

- **Lufthansa Technik Component Services**
- **Hawker Pacific Aerospace**
- **HEICO Aerospace**
- **BizJet International**

3.200 employees

Lufthansa Technik

Lufthansa Technik Group

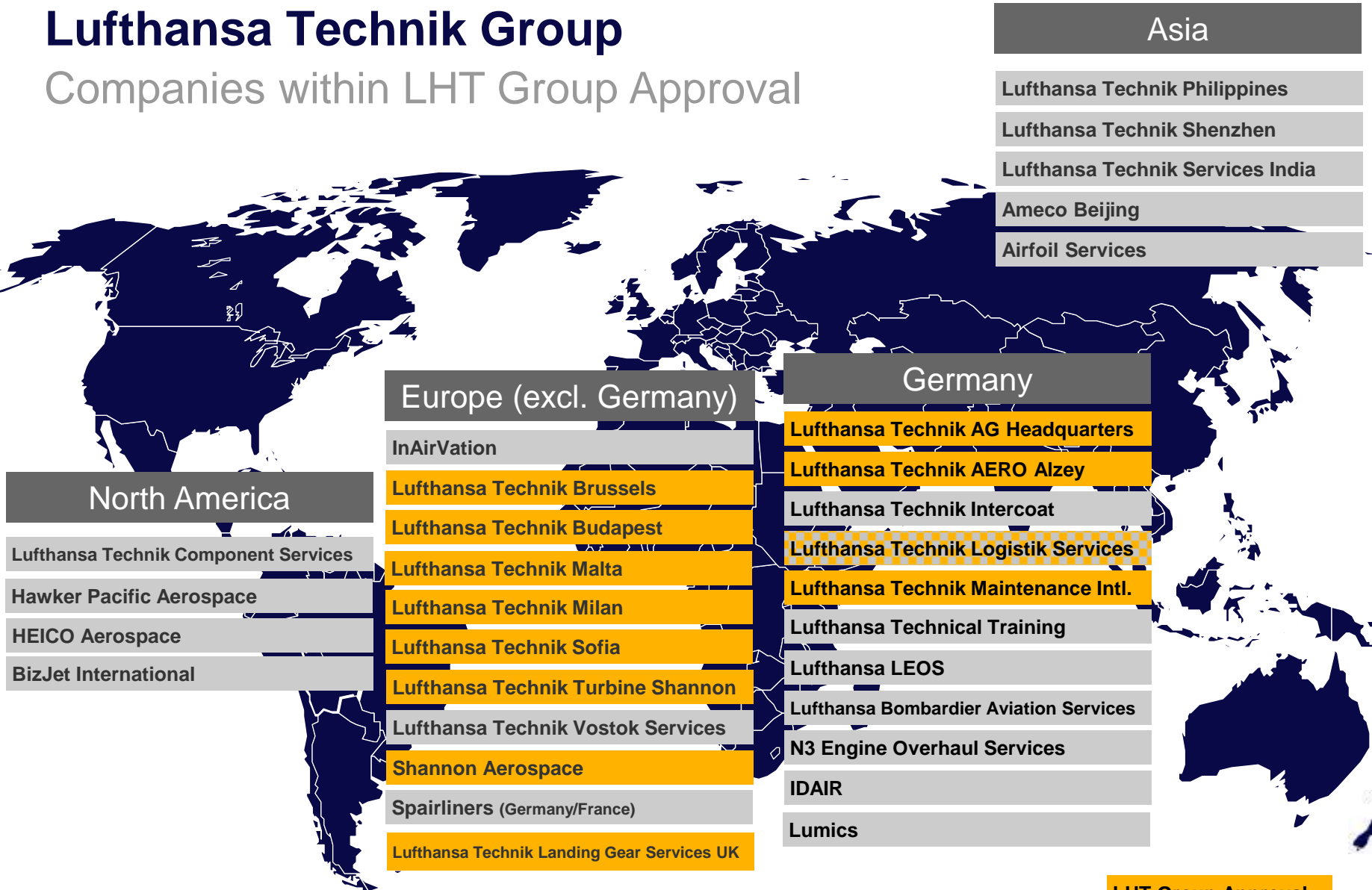## Companies within LHT Group Approval

Asia

Lufthansa Technik Philippines

Lufthansa Technik Shenzhen

Lufthansa Technik Services India

Ameco Beijing

Airfoil Services

Europe (excl. Germany)

InAirVation

Lufthansa Technik Brussels

Lufthansa Technik Budapest

Lufthansa Technik Malta

Lufthansa Technik Milan

Lufthansa Technik Sofia

Lufthansa Technik Turbine Shannon

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Germany

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Hawker Pacific Aerospace

HEICO Aerospace

BizJet International

LHT Group Approval Company DE.145.0001

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Integrated Quality Management

Comprehensive certification to fulfill highest standards

Integrated
Aviation law plus international standards

Global
Established in LHT Group* until 2015

Certified
External surveillance of system
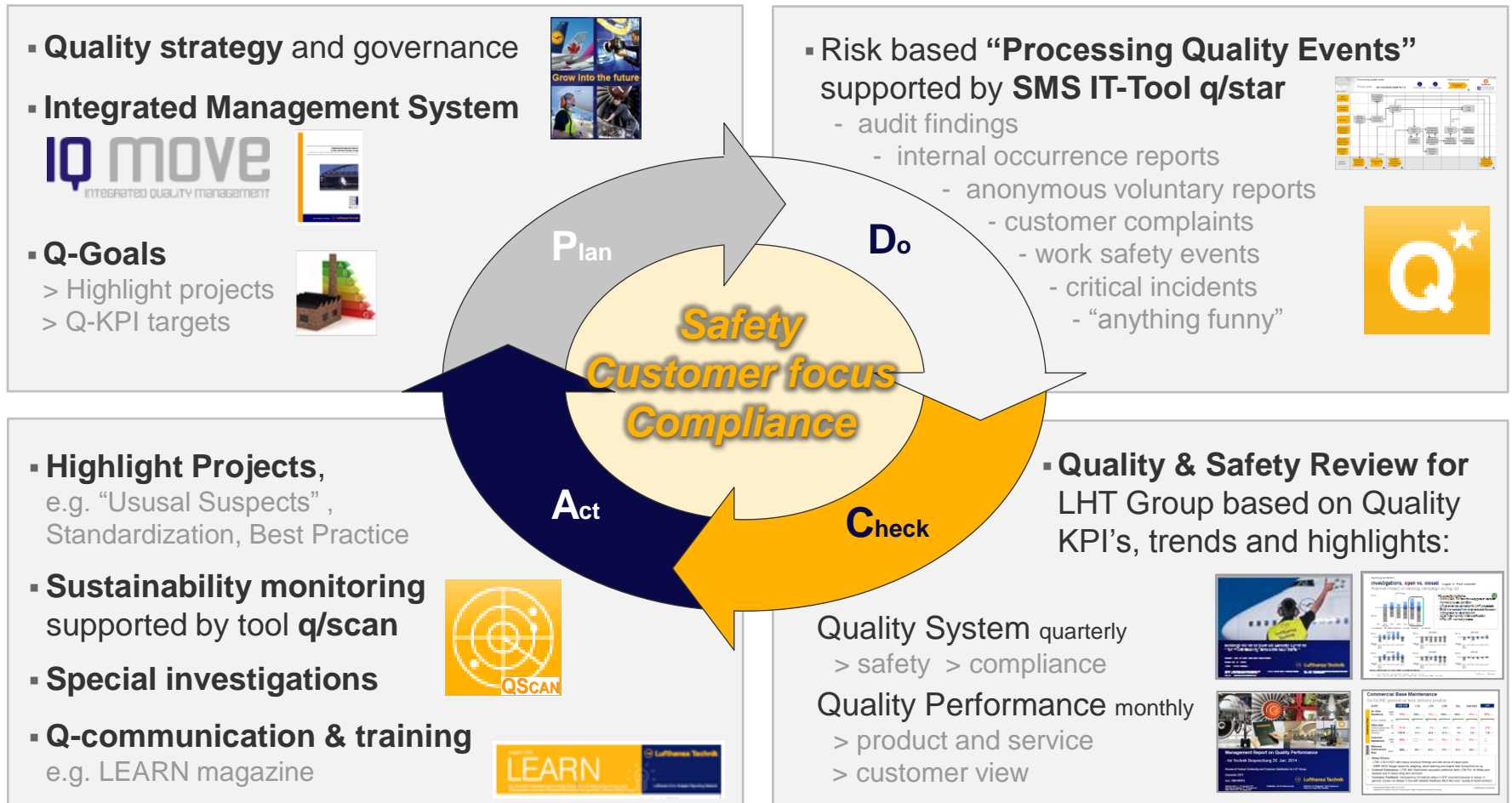
Approved Quality for our customers

EN/AS 9110
Quality
(Development/Maintenance)

OHSAS18001
Health & Safety

ISO 14001
Environment

* Majority owned subsidiaries

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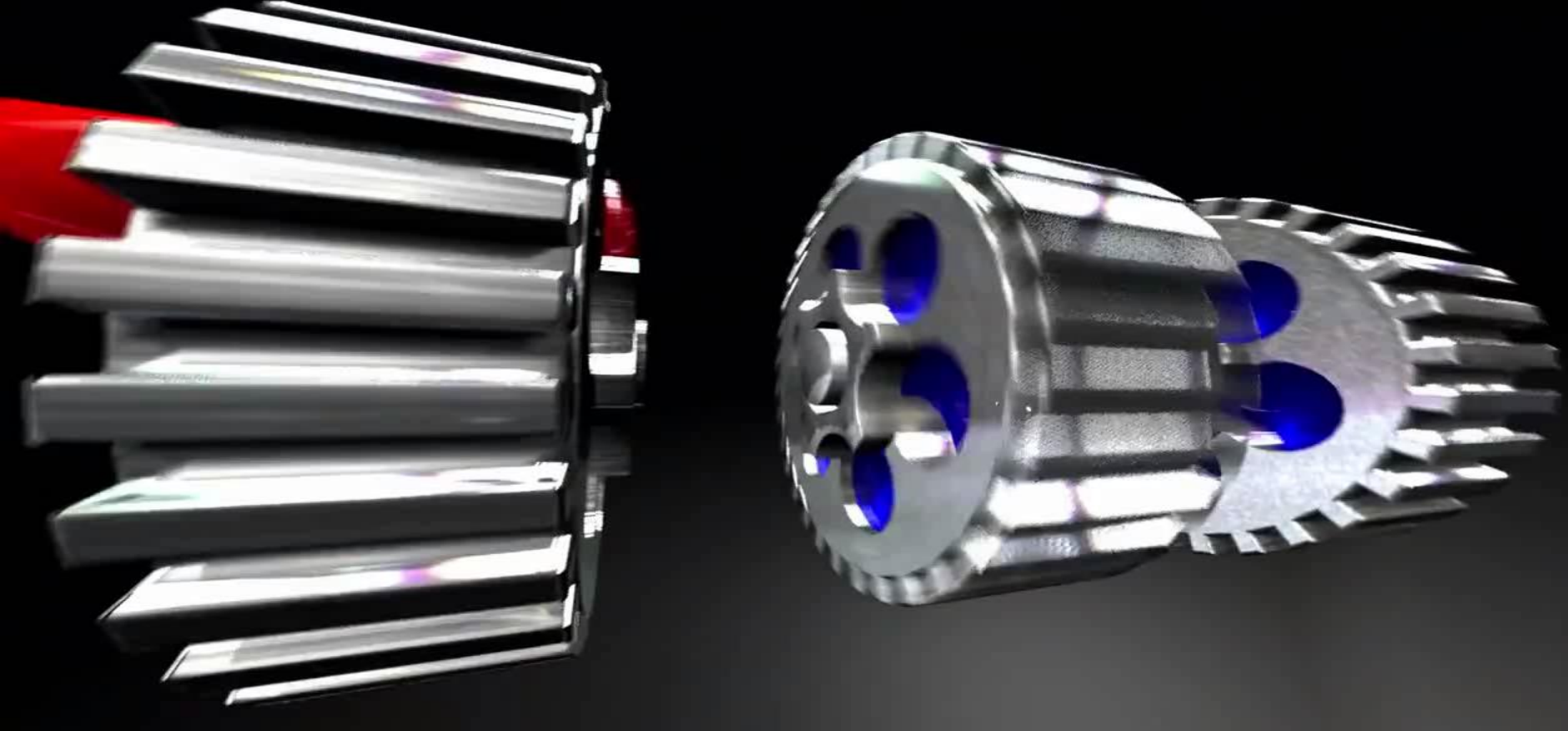
Source: Australian Government | Civil Aviation Safety Authority

We keep the gear adjusted !

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Safety Management System Circle
Guarantee for sustainability and success

Plan

- **Quality strategy** and governance
- **Integrated Management System**

  IQ move
  INTEGRATED QUALITY MANAGEMENT

- **Q-Goals**
  > Highlight projects
  > Q-KPI targets

Do

- Risk based **"Processing Quality Events"** supported by **SMS IT-Tool q/star**
  - audit findings
    - internal occurrence reports
      - anonymous voluntary reports
        - customer complaints
          - work safety events
            - critical incidents
              - "anything funny"

Q*

Safety Customer focus Compliance

Act

- **Highlight Projects**,
  e.g. "Ususal Suspects",
  Standardization, Best Practice
- **Sustainability monitoring** supported by tool **q/scan**

  QSCAN

- **Special investigations**
- **Q-communication & training**
  e.g. LEARN magazine

  LEARN

Check

- **Quality & Safety Review for** LHT Group based on Quality KPI's, trends and highlights:

Quality System quarterly
> safety > compliance

Quality Performance monthly
> product and service
> customer view

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Diagnosing the quality event
Finding solutions with MEDA

Corporate Learning

Analysing problems

Management & Infrastructure

Mindset & capabilities

Technical systems

Solution oriented analysis with LEAN

Event
Fault
Error
Violation
Cause

Clear definitions to analyse an event

Gathering information

Thus the investigator treats these persons as partners instead of punishing them

Instead persons who caused events are the key for finding a solution

No employee wants to harm the company

MEDA
Maintenance Error Decision Aid (MEDA) is a structured process to investigate events caused by maintenance technicians and/or inspector performance. It was developed by Boeing and is a widely respected standard in aviation.

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Looking for patterns in the events with q/star
Four tools to identify systematic risks

*With q/star events are analysed and documented according to **common standards**. They enable us to identify systematic risks*

Error Categories	*Making events comparable with standardized categories*	
Cause Categories		
CNQ	*Identifying financial costs and liabilities*	
Risk assessment	*Identifying **critical topics** which have to be processed with higher priority*	

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Advantages for Management
Solutions and implementations gives the orientation

The q/star process have many advantages for management

Focus on decision and implementation:
The Investigator analyzes as Action Owner quality / safety problems and recommends solutions. This enables you to focus on **decision and implementation**.

Higher efficiency:
With q/star we process quality problems according to their severity- severe problems with high intensity and smaller issues pragmatically.

Overview:
You keep clear sight over quality / safety problems in your department enabling you to take actively actions.

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Quality System Report - concept

Highlight review + Q-KPI trends = reactive + preventive

Highlight Events

Risk based identification of highlight events. Detailed analysis and action plan.
- repeat cases
- FMEA based risk evaluation
- integrated QEHS + cost

Quality KPI trends

Statistical analysis: trends, target achievement, cluster analysis to improve prevention

Background Information

Process indicators for specific performance targets, e.g. duration of investigation etc.

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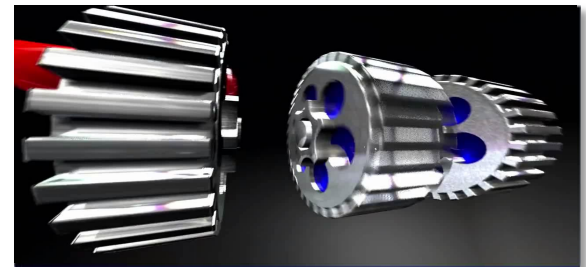
q/scan

systematic spot checks to ensure sustainability

new

Usual Suspects → Don't know them yet? → Find out! → **QScan**

Usual Suspects → Know them? → Tackle them! → **QScan**

Spot Checks as part of implementing corrective actions → Corrective action "Employee Information" not successful? → Try something different! → **QScan**

Sustainability of corrective actions → Being sure that your corrective action is sustainable? → Verify and adjust!! → **QScan**

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LEARN magazine

Open communication of errors & learnings to support Just Culture

Lufthansa Error Analysis Reporting Network LEARN

Concept

- **Open publication** of errors … and best practice

- **Non punitive** (!)

- **One pager** per event, appealing to read

- **Error – chain of events – Learnings**

- Source: q/star reporting and anonymous hints

- **Quarterly** print and digital publication for LHT group
  15.000 prints

Groupwide LEARNing
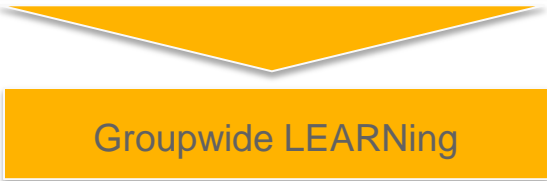
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Vielen Dank für Ihre Aufmerksamkeit.
Thank you for your attention.

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