



Your challenge, our project –  
**logistics solutions**  
**for Aerospace.**



## Vertical Market Aerospace – Best connections to the industry.

DB Schenker stands for the combination of performance, service and quality, regardless of the complexity or scope of logistics tasks and requirements. As an integrated logistics services provider DB Schenker operates and shapes the transportation network of the future, including Land Transport as well as Air Freight, Ocean Freight and Contract Logistics.

### Our performance for your successful logistics.

We handle goods in end-to-end supply chains and offer our customers innovative and cost-efficient transport and logistics solutions of high quality and from one source. Furthermore, we are constantly enhancing logistical processes – locally, nationally and worldwide.

We have a presence in some 130 countries around the world; with over 100,000 employees we work in a worldwide network, but operate locally. Thanks, to about 2,000 locations in the world's most important economic regions, we have a global network dedicated to customer service, quality and sustainability.

### We are within the Top 5 across all products:

- **No. 1** in Europe in Land Transport Shipments (in thousands): 95,325
- **No. 1** in Europe in Rail Freight Transportation volume (in million tons): 399
- **No. 2** worldwide in Air Freight Air freight volume (in thousand tons): 1,095
- **No. 3** worldwide in Ocean Freight Ocean Freight volume (in thousand TEU): 1,905
- **No. 5** worldwide in Contract Logistics Turnover (in million Euros): 1,750

Source: Annual Report Deutsche Bahn AG 2012

## Your reliable partner for Aerospace.

DB Schenker supports the Aerospace Industry and your suppliers to establish most efficient logistics across the world and for all your products.

### Qualified performances for your success.

We know the challenges faced by the Aerospace Industry and the solutions and tools you need to make your business, operations and supply chain run smoothly. Our expertise in each of the modes of transport and in contract logistics makes us the ideal partner for dedicated services.

- We have a global team of experts in place to ensure the best support to our customers along your entire supply chain.
- We offer a global reach combination of solutions 100 % fitted to the aerospace industry, capable to support the full aircraft lifecycle.

### Solutions for your success:

DB Schenker offers a wide portfolio of expertise and solutions, from logistics network strategy, AOG and Critical transport solutions, warehouse design, supply chain operational improvement and implementation set up.

- **Production Logistics:** Network/Inventory Management, Storage and Distribution, PVMI
- **Total Care Solutions:** for the aerospace supply chain (Transport -AOG, Critical, Routine-, Repair Logistics Solution Aero-Thrust, Aerohubs, Distribution Centres ...)

### We have the solutions for every market segments.

With 27,000 commercial airplanes in service or more by 2016, the service life of an aircraft spans decades with one goal: flying. Therefore, we are committed to provide you with Transport and Logistics solutions.

With over 40 years of experience and innovative solutions we provide dedicated and integrated solutions to rationalize logistic support requirements and optimize cost-effectiveness to:

- All aircraft manufacturers
- Multiple airlines and operators
- Nearly everyone of the major OEMs
- Fastest growing Engine and Aircraft MRO companies
- A large number of Parts Distributors
- Government & Defense contractors

### We translate requirements of the global Aerospace industry into essential Logistics solutions:

- Customized solutions to coordinate and streamline production logistics flows into one transparent supply chain model
- Global coverage with Regional and Local expertise
- Dedicated Aerospace specialists and Competence Centres around the world
- Strategic AOG Desks network offering worldwide 24/7 coverage
- Time Definite Multimodal Transport services for Critical and Routine shipments
- Supply Chain Management solutions customized to fit your requirements eSchenker, ATOL, CARLA ... are on-line information systems.
- Comprehensive on-line information systems:
  - Global Track & Trace (eSchenker)
  - Pro-Active AOG monitoring (ATOL )
  - Complete visibility of the Repair Management Cycle (CARLA)
  - Warehouse Management Systems for global inventory visibility (AeroWMS)





## The right part, at the right place and time – DB Schenker Production Logistics.

With our Production Logistics solutions we ensure that each machine, workstation and production line is being fed with the right product in the right quantity and quality at the right point, in time.

The term Production Logistics is used for describing upstream logistic processes within an industry. The issue is not the transportation itself, but to streamline and control the flow through the value adding processes and eliminate non-value adding ones. Production logistics provides the means to achieve customer response and capital efficiency.

### Production Logistics includes:

- All feedstock supply related activities: materials, semi-finished products, equipments and parts
- All activities related to the transfer of semi-finished and finished products to the consolidation centres

### Network Management

- Order Fulfilment/Return Processing
- Flow Management

### Inventory Management

#### ■ Line Feeding and Kitting

- Line feeding solutions can provide kitted parts, expendables or toolings directly to production lines on a just-in-time and sequenced basis

- Kitting solutions provides a service to convert bulk material or parts into a set of parts ready to be manufactured into final assemblies

#### ■ In House Logistics

- To bring a competitive advantage from our customer's sites, we provide a large array of services from basic to most complex and integrated requirements: VMI, Warehousing, Transport Management, Customs ...

#### ■ Oversized Parts Handling

- We provide a unique expertise in storing, handling and shipping high value, oversized and highly sensitive aerospace equipments.
- Risk assessment, packaging, handling and shipping conditions are managed by qualified staff around our global network.

#### ■ Production Vendor Managed Inventory (PVMi)

- Organization of transportation and warehousing, adjusting the level of inventory against the demand and then supply materials to the FAL
- Minimization of out of stock and reduces inventory in the supply chain.

## DB Schenker Aerospace Solutions: Total Care Solutions.

With our Total Care Solutions we offer transport and logistics to the aerospace aftermarket. This includes regular spare parts delivery, emergency transports (AOG), Warehousing for Critical Spare Parts, Distribution Centre and Repair Logistics solution.

### We provide our customers with the best quality with our Total Care Support:

- Ensure Airlines/Operators that the aircraft remains into flying conditions
- Integrated, tailor-made solutions
- Efficient and cost effective high performance technical solutions for the Aircraft fleets
- Wide range of services including Logistics and Transport for materials such as rotables and consumables parts, tooling, engines, GSE

### Total Care Solutions include:

- **Transportation Solution/AOG Management**  
From Routine to AOGs, DB Schenker has a wide range of Time Definite solutions.
- **Last Mile Logistics**  
Line maintenance and/or spares management with maximum effectiveness
- **Aerohubs/Outstations**  
Multi client warehouse for critical spare parts located at international airport.
- **Spare Parts Storage/Distribution Centre**  
Dedicated or shared solutions to supply the local or regional aftermarket.
- **Repair Logistics Solutions**  
We monitor all the key steps of a Repair to reduce the C.R.C.T (Component Repair Cycle Time)





## Performance and Reliability. Beat the clock with our AOG Service.

### Best fitting AOG solution.

Because no AOG situation can be compared to another, we consider each AOG as specific and customized, with its own transport and logistics solution to beat the clock:

- Customized collection and express Air Freight services using first-class carriers are only a side of our performance
- Experience, aerospace industry requirements understanding, transport and logistics expertise combined with live on-line tools are key to keep your planes and business up in the air.
- Operated by skilled professionals, on duty 24/7 and organized team shifts for permanent proactivity and availability
- Set up and trained alike, guaranteeing unrivalled services and securing all AOGs operations
- Unique IT platform (ATOL-Aog Tool On Line) supporting all AOG Desks to perform the AOG operations (planning, monitoring, tracing) and help to interface communication between all parties (AOG Desk, Customer, Shipper, Consignee ...)

### Your benefits from AOG Services:

- Front Office: AOG Desk Staff, on duty 24/7 (shifts)
- Back Office: AOG Desk Supervisor monitors team on shift
- Information: connected to live airport traffic and news channels to pro-actively anticipate any event that would influence the AOG lifecycle
- Express: pick-up and deliveries at all times for immediate reactivity
- Airside: direct access to apron for AOG pick-up or delivery at tail of aircraft
- Control Tower: constant feedback for monitoring and live AOG status updates

### AOG Desks Service – when every minute counts

With a strategic and worldwide network of 36 AOG desks offering 24/7/365 operational coverage, we are positioned to meet every single one of your AOG requirements. The AOG Desk network staffed with dedicated aerospace specialists including local knowledge and global reach is able to provide:

- Purchase Order follow-up and status reporting
- Immediate pick-up and delivery
- Express customs clearance
- Expedited transportation
- Pro-active monitoring and continuous feedback
- Secured transportation solutions for our Defense customers

### One Call, One Contact

Wherever your AOG is located you only have to contact your local AOG Desk who will process the AOG to meet the target delivery. A single point of contact to ease your communication and channel the AOG follow up. With a strategic network of AOG Desks positioned to meet every single one of your AOG requirement, the Schenker AOG Desk network brings you both local expertise and global reach.

### Time Definite Transport solutions, a must for your supply chain.

- Multimodal Transport Solutions
- From express to combined transport solutions, by selecting a time definite solution you enable your item components to not only move faster, but on a precise and on-time schedule
- AOG: Fastest possible delivery using every available method
- Critical: Time Definite service using the most direct services
- Routine: Cost effective movement for non-urgent orders

# AOG Information Management Online Tool – ATOL.

The information management is a key issue for all the aerospace logistics specialists, and a must for AOG Process. DB Schenker has developed a proactive online customer IT tool delivering:

- On-line and secured access to your tailor made site.
- Full visibility to all your AOG shipments from a single page
- Traffic light design showing real-time milestones status
- Comprehensive reporting capability
- Drill down access to individual shipments (e.g. part number, purchase order, item, Air Way Bill Number)

### Online Positioning of your order

- Positioning Status of your order at a glance
- Transit time calculation
- Instant messaging center
- Documents download (AWB, ESA form, invoice, etc.)
- Realtime follow-up, tracing and monitoring.
- Purchase order follow up and status reporting
- Immediate pick-up and delivery information
- Expedited transportation
- Pro-active monitoring and continuous feedback
- Secured transportation solutions for our Defense customers

### Lively consult your data:

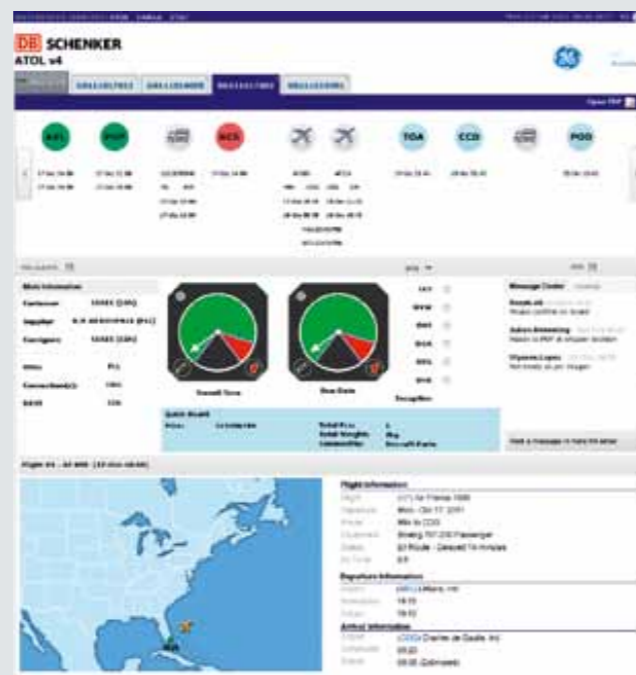
- PN, PO, Live Item, AWB, etc. (multi criteria search)
- Updated and detailed live follow-up of our operations
- Quality reports and statistics
- Documents downloads (AWB, invoice, etc.)
- Interactive message box
- Traffic light design showing AOGs status at all times
- Drill down access to individual shipment and online positioning of your order

### Improved Features:

- Better technology: Web 2.0 basis with innovative interface for intuitive ergonomics and faster data processing
- Better business: Realtime and forecasted workflow driven to support decision making and business intelligence for performance and knowledge management
- Better interconnexion: connected to airlines websites, flight schedules and status databases, others DB Schenker applications

### ATOL Added Value Services

- Secured Data
- Decision Support Tool
- Transport Planification
- Greater Workflow Visibility
- Realtime Flight Status
- Automated Alerts
- Geolocalisation
- Customisable Reporting and KPIs
- Cargo 2000 Compliant
- Multi Criteria Live Search Engine



# Maximize your logistics footprint with our Aerohub Solution.

### Aerohub Solution includes:

- Integrated Logistics and Transport operations from multi-users platforms
- Combining local and regional reach inside a global network: integrate warehousing, transportation, optimized customs regimes and component repair cycle management for a full logistics support
- Support of your local/regional distribution businesses, including line maintenance operations
- Generating synergies by pooling multiple suppliers, with optimized scheduling, from a local centralized base, providing cost effectiveness to local/regional distribution including direct tarmac deliveries

### Aerohub Added Values and Capabilities Functions:

- Local/Regional spares DC
- Reverse Logistics Centre

### Characteristics

- Effective and profitable
- 24/7 Order Management
- Replicable solution
- Local customs expertise
- Multiple Clients Inventory
- Temperature and humidity control
- Specialized racking (tire racks, long part storage)
- Scalability allows to increase storage space
- Airside delivery
- 24/7 Operations

### Added Value for Airlines, OEMs, MROs

- Full line maintenance support
- Local/regional base to your distribution services

- Improvement of C.R.C.T of repair orders
- Close proximity to major airports
- Multi Users concept: space flexibility, Plug & Play
- Transportation Services: 24/7 AOGs or Critical transport services

### Rush your Logistics with Airside

Airside enables a direct access to the apron, allowing spares delivery at the tail of the aircraft within the shortest timeframe possible. We deliver your spares and equipments under extremely timecritical situation.

### AeroWMS®

- This web-based application enhances the assets management globally of multi sites with single control to support Airlines, OEMs and MROs
- Quick implementation
- Flexible and scalable
- Regular improvement, update and development
- Software as-a-service (SaaS)
- Aerospace driven solution
- Paperless solution
- Low running cost and carbon footprint
- AeroWMS® Multisite with single control
- Web enabled application
- Aerospace specific
- Global visibility (in-house and transit between warehouses)
- Live Ad Hoc reporting
- Supply Chain Event Management with alerts system
- Interactive system (orders)
- Secured access
- Bar code capable (handheld scanner and Zebra printers)

## DB Schenker's solution for aircraft engines transportation: Aero-Thrust!

### Great challenges need professional know-how.

The aircraft engine market is forecasted to reach 73,400 units, valued at 647 USD billions by 2029. New aircraft driving engines technological challenges (fuel efficiency, environmental concerns, operating and maintenance costs), increasing competition from OEMs on the MRO market, demand from customers for a more flexible and adaptable cost structure is leading engines OEMs and MROs to maximize on-wings time at reduced costs of ownership and maintenance, all along the engine service life. Consequently sophisticated services developed to support complex products such as aircraft engines can account for 50 % of engines OEM revenues.

Our Aero-Thrust solution contributes to minimize downtimes, optimize the engine supply chain process, master handling capabilities of DGR and oversized engines shipments, upgrade logistics and transportation monitoring to bring added value to keep the aircraft flying and engines running.

Aero-Thrust affords a unique combination of pricing and transport services fitted to the specific requirements of engines supply-chain solution, powered by one-of-a-kind web application, supported by dedicated experts.

### Engine Solutions

#### Engine Service Center

Our engine skilled experts engineer the best solution, based upon their market expertise, experienced and in depth "glocal" knowledge in engines/oversized logistics.

- Local single point of contact
- Availability 24/7
- Access to the worldwide DB Schenker network, no matter the time zones and office hours intervals
- Combining quick pricing within a maximum of 24 hours, and most accurate service in the shortest timeline

#### Engine monitoring tool

Our engines experts feed and maintain an accurate information system providing business intelligence (local suppliers capabilities, transport solutions, reliability ratings ...) focused on engines and oversized shipments.

- All aspects of the operation (engines and stands dimensions, DGR process, airside capabilities, suppliers selection ...) are scrutinized and checked
- Each engine transportation requirements are documented in detailed SOPs (strapping and handling process, loadability ...).



### Engine IT tool

- Quotation Module/Online Pricing
- Live 24/7 tracing
- Embedded shipment planification
- Planned and actual transport visibility
- Realtime flight status
- Documents uploads
- Pics uploads at handover points
- Knowledge and Improvement Management
- Customer feedback
- KPIs
- Streamlined emails flow
- Pricing in less than 24 hours
- 24/7 engine tracing tool
- Simplified contacts
- Dedicated Engines KPIs
- Lessons learnt feedback

### Information is the key to success.

From pricing to final delivery, information properly channeled and feedback are key elements for success and customer satisfaction.

- Advanced IT platform for easy and user friendly access to all the characteristics of each operation: pricing, engine information, transportation milestones, document upload, emails exchanges
- Maximize follow up and security, engines pictures are uploaded in the IT tool at hand-over points

### Your advantages:

- Production Plan follow-up
- Production Availability forecast
- Flows Optimization with back up solution
- Repairs Shops identified in DB Schenker's Management System
- Worldwide DB Schenker Network
- 24/7 reactivity

## Repair Logistics Solutions for performance and customer satisfaction.

### Repair Logistics Solutions

- Reliability through monitored CRCT
- Added value through cost controlled supply chain
- Best-in-class solution to keep lean inventory stock levels
- Significant decrease of administrative and financial costs
- Possibility to replace low added value tasks by profitable monitoring and performance benchmark of your suppliers
- Organization and Tracking of Repair Orders from customer's shelves to the repair shops and back
- Full repair cycle management
- Worldwide dedicated network
- Professional, experienced aerospace know-how
- Regional Logistics Center (RLC)
- State of the art IT monitoring tool CARLA (Comprehensive Aerospace Reverse Logistics Application)

### RLC – Regional Logistics Centers drive the performance

Our RLC form the backbone of our Reverse Logistics Solution, monitoring all repairs logistics operations worldwide:

- Regional coordination point of contact for MROs
- Single point of contact for customers
- Interface for DB Schenker Operations
- Manages CARLA

### Improved CRCT Logistics

To keep aircraft flying and maintain a lean inventory stock level is a daily challenge in today's Aviation Industry. An airline addresses multiple MROs, some repairs can be sub-contracted, multiple TAT (Turn Around Time) must be controlled at once, emergency upgrades according to inventory levels and parts availability can raise costs or even cause grounded aircraft. Improving the CRCT is a key success factor to strike competition.

### RLS leads to reduced CRCT by managing all the key steps of a repair, including:

- Overall door to door transport solution
- Fast customs processing
- Innovative communication platform providing full visibility on R/O (CARLA) between all players
- Shortened transit time
- Full tracking from/to Repair Stations
- POD at Repair Station
- Customs Clearance: fast customs process
- Repair TAT: direct interface with Repair Station anticipates repair completion
- Communication: full visibility on documents, interactive platform between all parties



## Great tools for great control – CARLA: the web tool supporting RLS solution.

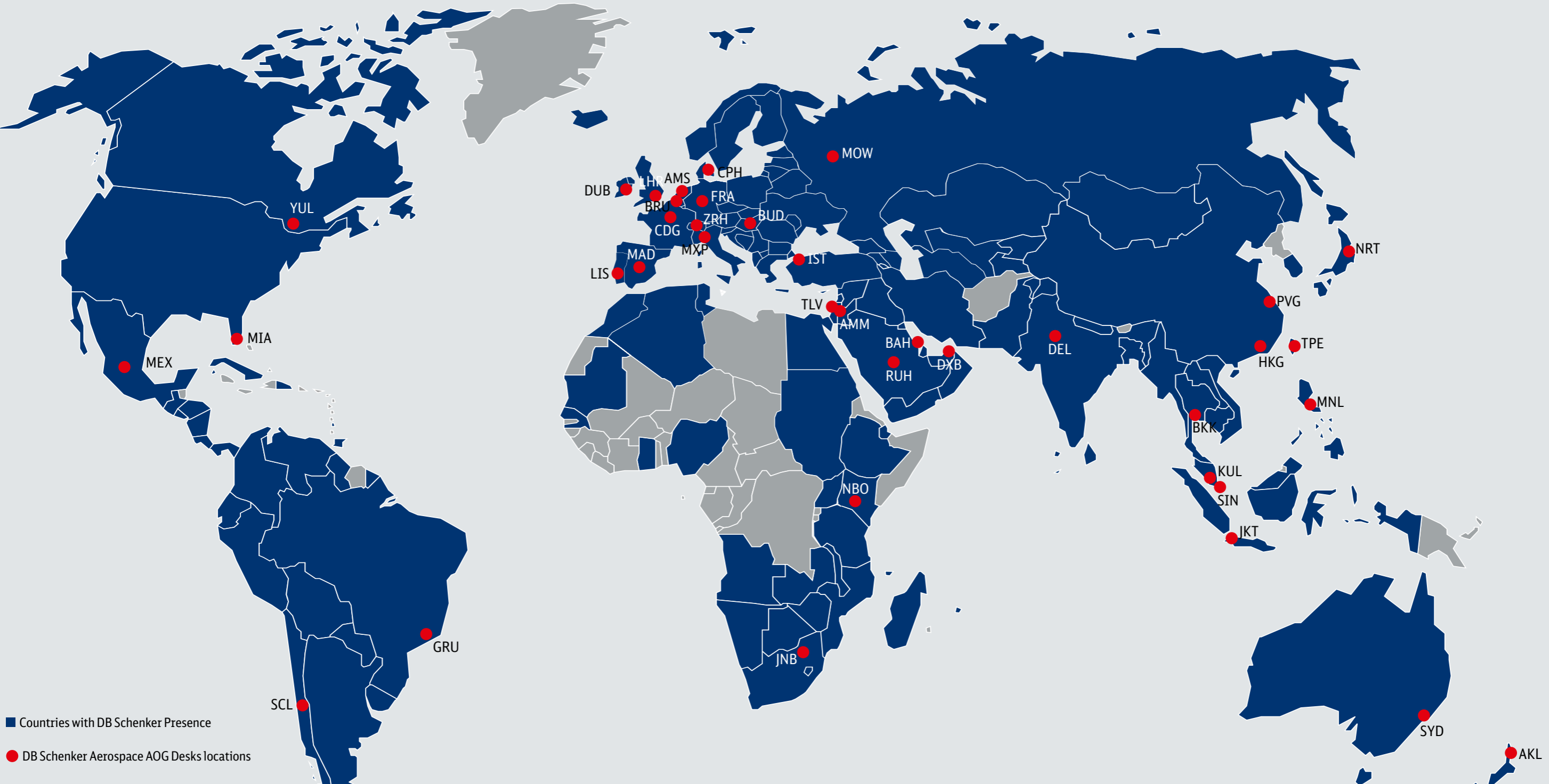
### CARLA ...

... is a streamlined process and communication channel offering full monitoring of your repair orders through a secured website. From a single and user friendly web page, customer controls the key milestones of the repair cycle, including:

- Door to door transport
- POD (Proof Of Delivery)
- TAT (Turn Around Time)
- Costs
- Exchange Communication Platform
- Provides complete CRCT loop visibility with real-time positioning of R/O shipment, TAT and costs calculation for efficient repair visibility and monitoring

### CARLA Value Added Services

- Full Component Repair Cycle Time Monitoring
- Full Transportation and Repair Costs monitoring
- Single Page Realtime Tracing on Full Transport loop
- Automated Updates of Tracing Data
- Central communication platform including traffic lights alerts
- Document Center and Downloads
- Key Performance Indicators
- Centralized Customs Information
- Online, real-time information feedback
- Reduction of your Component Repair Cycle Time
- Reduction of your repair administration costs
- Reduction of your inventory levels and associated costs



**Global presence and local commitment.**

DB Schenker is present in several regions all over the world (see highlighted parts in the map).



## DB Schenker services all over the world – Global Aerospace Market Segments:

These cities corresponds to the AOG Desks network.

### The Americas

- Brasil, Sao Paulo (GRU)
- Canada, Montreal (YUL)
- Mexico, Mexico-City (MEX)
- USA, Miami (MIA)

### Europe

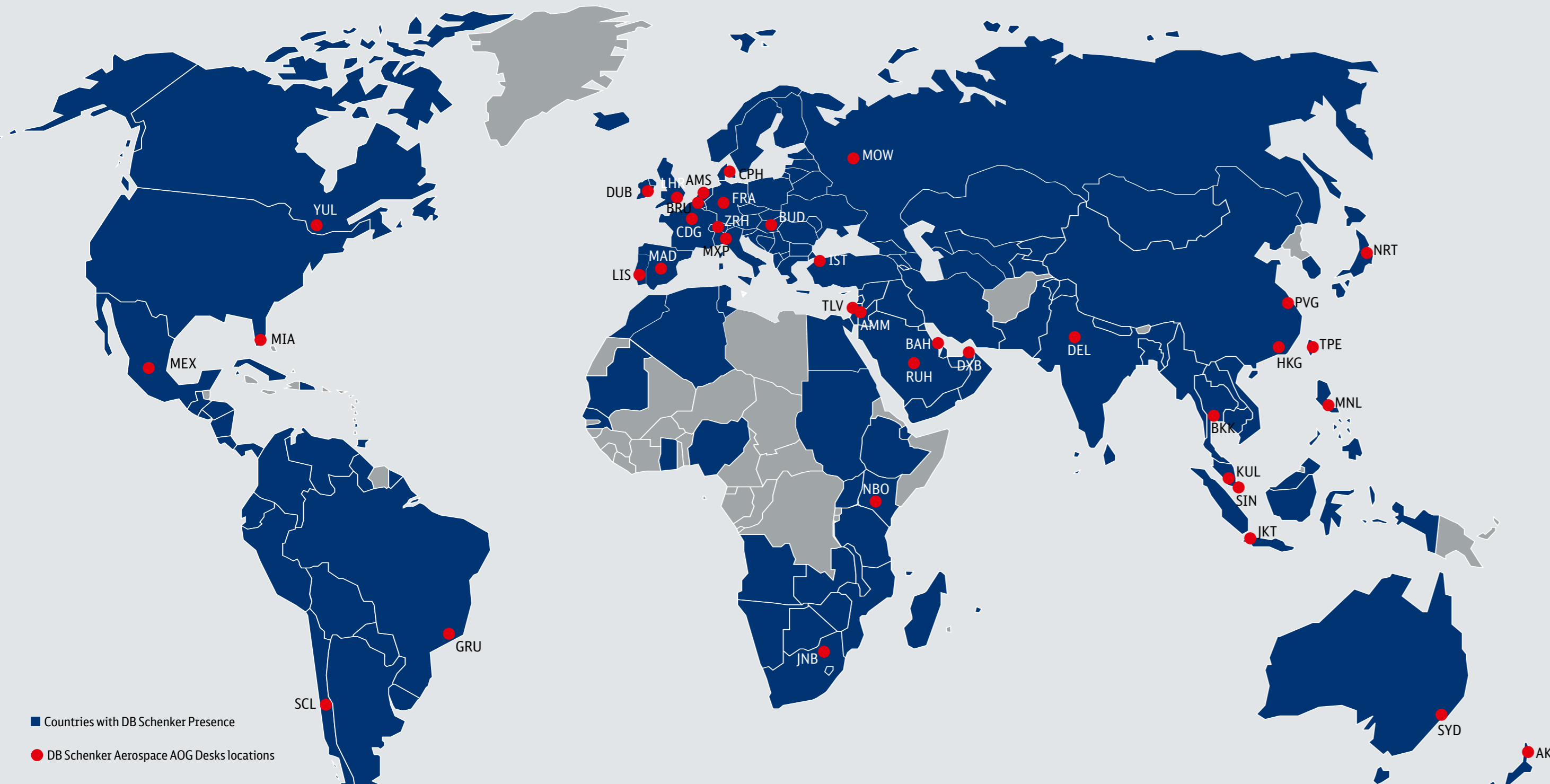
- Denmark, Kopenhagen (CPH)
- France, Paris (CDG)
- Germany, Frankfurt-Main (FRA)
- Hungary, Budapest (BUD)
- Ireland, Dublin (DUB)
- Italy, Milan (MXP)
- Netherlands, Amsterdam (AMS)
- Portugal, Lisbon (LIS)
- Spain, Madrid (MAD)
- Switzerland, Zurich (ZRH)
- Turkey, Istanbul (IST)

### Middle East, Africa

- Bahrain, Manama (BAH)
- Israel, Tel Aviv (TLV)
- Jordan, Amman (AMM)
- Kenia, Nairobi (NBO)
- South Africa, Johannesburg (JNB)
- Saudi Arabia, Riad (RUH)
- UAE, Dubai (DXB)

### Asia Pacific

- Australia, Sydney (SYD)
- China, Taiwan (TPE), Shanghai (PVG), Hong Kong (HKG)
- India, Delhi (DEL)
- Indonesia, Jakarta (JKT)
- Japan, Tokio (NRT)
- Malaysia, Kuala Lumpur (KUL)
- Newsealand, Auckland (AKL)
- Philippines, Manila (MNL)
- Singapore, Singapore (SIN)
- Thailand, Bankok (BKK)



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