SUPPLY THE SKY

THE EXTENSION OF YOUR AEROSPACE BUSINESS
A PROVEN SOLUTION FOR THE AEROSPACE INDUSTRY

At Kuehne + Nagel we develop and deliver customised aerospace solutions which cater for manufacturers, leasing companies and airlines. In addition, our solutions extend to other companies specialising in Maintenance Repair Overhaul (MRO), ground handling and in-flight services. Our award-winning "Supply the Sky" concept covers competencies across the entire aircraft lifecycle.

OUR SUCCESSFUL SUPPLY THE SKY MODEL

The demands of the aerospace industry are changing rapidly. Passenger service level requirements are increasing, new manufacturing technologies are being implemented, value chains are being restructured, and environmental issues are constantly growing in importance. Logistics accounts for over 10% of the industry's market value, meaning logistics providers must be ready to adapt solutions for this dynamic industry.

With integrated logistics services covering the demands of the industry in terms of size and dimensions, the complex distribution networks, plus the stringent accuracy and safety requirements make the "Supply the Sky" concept unique.

A PROVEN SOLUTION FOR THE AEROSPACE INDUSTRY

AEROSPACE LOGISTICS - SUPPLY THE SKY

Today's aerospace companies face challenges that need care and consideration to resolve. In order to succeed they must integrate improved logistics, both in terms of performance and cost, into their overall value chain – or risk being left behind. Now there is a solution.

AIRCRAFT LIFECYCLE

PRODUCTION LOGISTICS
SUPPLIER MANAGEMENT
IN-FLIGHT SERVICES
SPARE PARTS LOGISTICS
ENGINE LOGISTICS
INCIDENT MANAGEMENT

AIRCRAFT LIFECYCLE
Production logistics is an essential enabler within the supply chain of an airframe supplier. We are able to provide world leading logistics solutions by offering complete production logistics engineering. We also have expertise in heavy parts handling which altogether allows manufacturers to perform a lean and effective production process.

Utilising our best-in-class warehouse management system (WMS), which interfaces with the customer’s ERP, we can enhance labour productivity and inventory management. This minimises logistics and production space through optimising stock density and line side buffer stock. The WMS is also the basis for a performance management system with standard KPIs.

We have extensive expertise in lean Management based on our production system concept. This with our knowledge of logistics engineering assists in the conception of supply chains for new aircraft programs.

**KEY PRODUCTION LOGISTICS SERVICES**
- Supplier scheduling and integrated vendor community solutions
- Ordering and replenishment services
- Inventory management and stock level optimisation
- Customised kitting
- Just-in-time (JIT) and pull flow delivery to line-side
- Re-usable packaging solutions
- Pre-production services
- Best-in-class WMS interfaced with ERP
- Integrated performance management system with standard KPIs
- Vendor Managed Inventory (VMI) concepts

**KEY BENEFITS**
- Optimisation of part flows from point of delivery to production
- Just-in-time deliveries that reduce inventory at line level and lower costs
- Use of lean management concepts
- Minimisation of handover points and interfaces
Consolidation of the numerous suppliers needed to fit an aircraft provides a huge logistical challenge. Everything from seats to entertainment systems must be moved from a factory to the site of the aircraft manufacturer or airline. The successful management of all this buyer furnished equipment (BFE) can be a real competitive advantage.

Through our global network and years of experience we are able to consolidate all our customer’s BFE and ship it to them as they require. This provides savings in not only cost but time, helping our customers deliver projects on budget and on schedule. Delivering to the line is not the end of our involvement, our abilities stretch to the consolidation platform, allowing us to provide lean and efficient line-feeding preparation.

**KEY SUPPLIER MANAGEMENT SERVICES**
- Order fulfilment
- Event management
- End-to-end logistics
- Supplier clearing
- Supplier performance management

Furthermore, through our links with established assembly lines we have a physical presence inside aerospace production; giving us greater flexibility to react to the needs of our customers and manage events proactively. By simply giving us the details of their suppliers, manufacturers and airlines can concentrate on building the aircraft and be sure that all components will arrive on time and via the best possible means.

**KEY BENEFITS**
- Right first time just-in-time deliveries
- Reduced logistics costs of up to 60% on transport by consolidation and selection of correct transport mode
- Proactive management of problems
The need for the efficient worldwide supply of aircraft with generic, as well as airline specific (branded), reusable and disposable materials for in-flight service has increased. This growing demand has led to new logistical challenges for airlines. Carriers can now find themselves with an imbalance in stock amounts or even uncertainty as to the location of their products. Passenger levels can be inconsistent and seasonal, meaning airlines experience high levels of fluctuation in product demand, and so must be flexible when provisioning. Without logistical support airlines can also find themselves transporting large amounts of product needlessly around the globe, costing them both money and efficiency.

In partnership with LSG Sky Chefs, Kuehne + Nagel has formed a joint venture to combine the experience of one of the industry’s largest providers of in-flight services with one of the world’s leading logistics companies. Our goal is to bring innovation into the in-flight services supply chain through our state of the art systems, dedicated expertise and global presence. The result being a global logistics network which serves as a base for a single in-flight catering logistics platform, delivering minimised costs without compromising services.

**IN-FLIGHT SERVICES — MEETING YOUR FLUCTUATING DEMAND THROUGH FLEXIBILITY**

**KEY SERVICES FOR IN-FLIGHT SERVICES**
- Supply & demand planning
- Aircraft balancing management
- End-to-end supplier management
- Initial provisioning
- Performance management

**KEY BENEFITS**
- Reduction of basic logistics costs including warehousing and transportation
- Lower cost of ownership through managing stock levels and optimising purchasing
- Reduced consumption through better control
- Access to the SkylogistiX network and facilities
"Inoperable parts" (INOPs) represent a major problem for airlines. Expensive replacement parts are required otherwise the aircraft risks being grounded indefinitely. This essential part of the aircraft lifecycle receives special attention in the "Supply the Sky" concept. Over the course of the last 15 years we have developed services for this critical issue of spare parts availability, and provide three graduated transit time concepts to suit the needs of individual customers. Utilising our global network means customers benefit from a service that includes all the less urgent parts on the same day and in the same consignment as the more expensive Aircraft on Ground (AOG) shipment, leading to a reduced level of cost. Through incorporating technology into our order management system, alarms are immediately sent to the Kuehne + Nagel offices and airlines involved if transit times are exceeded.

We are dedicated to get our customers flying again as soon as possible. To ensure this we deploy 'hand carried' parts if necessary and charter aircraft, so your spares reach you when you need them. During the repair cycle we are actively involved and work hard to reduce the inventory level of our customers and strive for time concepts that suit their individual needs.

**KEY BENEFITS**

- End-to-end visibility allowing for event management
- Lead time and service reliability
- Reduced transportation costs through better flow management
- A complete and integrated service bundle ranging from chartered aircraft to hand delivery
- Global AOG network provides 24 hour & 7 day coverage
- Clearly defined metrics for each service level
- KN Login system enabling repair planning

**KEY SPARE PARTS LOGISTICS SERVICES**

- Tracking & Tracing
- Spare parts storage management
- Advanced stock organisation
- Repair logistics management

**SPARE PARTS LOGISTICS – KEEPING AIRCRAFT IN THE AIR AT CRUCIAL MOMENTS**
The movement of engines is a significant link in the aerospace industry supply chain and as a result is a new and important segment of the "Supply the Sky" lifecycle. Since the inception of our engine competence centre we have striven to provide specifically trained and dedicated teams for the movement of aero engines, allowing us to guarantee the highest standards of precision and safety.

With our experience and logistical scope we can deliver the best individual solution for each engine we handle. Deployed through our global centres of excellence, our teams are skilled in the movement and handling of everything from out-of-production engines through to the latest models, ensuring your engine receives the best care and the correct treatment.

**KEY ENGINE LOGISTICS SERVICES**

- 24 hour & 7 day access to a dedicated team of engine logistics experts
- Global presence through our network of competence centres
- The provision of pictures at every logistical stage

We employ rigorous quality control processes in order to ensure that the same high standards of service quality are present throughout our customers' whole supply chain, and only qualified carriers are allowed to transport their engines. Our dedicated teams are able to provide customers with full visibility of their engines in transit, building trust that we will deliver on time, every time.

**KEY BENEFITS**

- The provision of the best transport method for each engine
- Reliable on-time and incident free delivery
- Quality control processes ensure only qualified carriers are used
- End-to-end service management for reliable lead times and safe arrival of products
- Full customer visibility through KN Login
- Reduction in transportation costs due to loading optimisations
Despite the high degree of safety in the aerospace industry, airlines still battle with major incidents and prolonged “Aircraft on Ground” (AOG) situations somewhere in the world almost every day. Through “Supply the Sky”, we are able to provide a range of services to deliver what customers need most at this crucial time. By providing dedicated teams we carry out full project management on the incident and are able to provide complete project visibility. This is enhanced by the implementation of web-based IT systems that can link the airlines concerned, with technicians on the ground as well as Kuehne + Nagel specialists.

As a global logistics provider we use our knowledge and existing relationships to provide handling and specific transportation equipment on major airports, plus organise all necessary customs clearances. Our global presence also means our employees are always within range if a major incident occurs. We also possess the ability to charter aircraft or use shared space, thereby tailoring our solution to our customers’ needs. Being the extension of your aerospace business we are committed to providing reassurance and to giving full financial transparency & control. We take a fully proactive approach and our support teams get to work before an AOG incident escalates.

**KEY INCIDENT MANAGEMENT SERVICES**

- Full consolidation of material needed to resolve the incident
- Logistics coordination and visibility of the project
- On the ground project management team for logistics support

**KEY BENEFITS**

- Immediate status report on the full project plus visibility and cost monitoring
- Real-time information through KN Login
- Excellent support of the customer’s logistics department
- Itemised and ‘whole project’ costing
Quality, safety and precision cannot be overstressed in the aerospace industry. We have built up a longstanding reputation for the delivery of quality logistics solutions and continue to set the highest standards. We provide reassurance to our customers through the high number of industry certifications we possess. Furthermore, we expect these high standards of all our suppliers, and thoroughly monitor them to ensure our customers receive the best service over the whole of their logistics solution.

IT

The sophistication of the aerospace industry requires it to have equally sophisticated and dedicated IT systems. Kuehne + Nagel provides such solutions through KN Login, allowing our customers to order parts at the first sign of trouble, manage stock with greater efficiency and have full visibility on major AOG incidents from anywhere in the world.

The Kuehne + Nagel Group is one of the world’s leading logistics companies. Our strong market position lies in the sea freight, air freight, contract logistics and overland businesses, with a clear focus on providing supply chain management services. Our global network, state of the art IT systems and high levels of customer service, help us maintain our position as a market leader. We work to turn our customers’ logistics needs into a competitive advantage.

Competitive Advantages

- Long-term industry knowledge and experience
- Proven implementation expertise
- Customer focus
- Global leadership
- KN Login
- Quality & reliability

Kuehne + Nagel

- Over 120 years experience
- 56,000 employees
- 900 offices
- 100 countries
- 7 Million Sqm of warehousing