



Logistics solutions for the global aerospace industry

Aerospace is a fascinating and many-faceted key international industry. As one of the world's three biggest airfreight forwarders, Kuehne + Nagel depends on smoothly operating freight and passenger airlines all round the globe. At the same time the aerospace industry is an important customer for the logistics provider, on whose tailor-made service solutions more and more airlines and their suppliers rely.

Over the past fifteen years Kuehne + Nagel has developed a range of special services to meet the specific needs of international airlines. In this field too, the company has now achieved its goal of becoming one of the first choices of an exacting clientele – a fact which is highlighted by the receipt of a number of awards such as the *German Logistics Prize 2005* for Kuehne + Nagel's innovative, integrated logistics concept for this industry. However, Kuehne + Nagel is not resting on its laurels but is continuously developing this industry solution, which is marketed under the slogan *Supply the Sky*, into comprehensive service concepts.

The aerospace industry, which besides civil and defence aircraft and helicopter manufacturers, includes airlines and service companies specialising in maintenance, repair, overhaul, ground handling and inflight services, has grown dynamically in the last few years but is still challenged by a number of fast-moving change processes. Passenger service level requirements are increasing and next generation aircraft are coming onto the market, driving new manufacturing technologies and logistics needs. The aircraft manufacturers are also optimising their value chains through cost-effective relocation of production. In addition, environmental factors must also be taken into consideration for production. As a result, the importance of smoothly functioning logistics is constantly increasing in this industry, too.

Kuehne + Nagel's offering in aviation logistics meets the needs of this dynamically developing industry with an extensive portfolio of specific services. These can be individually selected by the customer, but are generally supplied as an integrated, complete solution. In this connection Kuehne + Nagel divides its services into a number of different segments.

All services connected with civil and defence aircraft and helicopter production are grouped into the **production logistics** domain, focusing on the needs of big international airframe manufacturers such as Airbus (see article on page 17). From traditional warehouse logistics to comprehensive solutions for complete production processes, from the delivery of a single fastener to the handling of complete aircraft sections, from order management to pre-production services such as sealant mixing, Kuehne + Nagel provides a diverse range of services to meet individual requirements.

Kuehne + Nagel offers comprehensive **supplier management** services between suppliers and airframe manufacturers as well as between the latter and their customers. These cover the complete production chain from basic equipment to the meeting of customers' individual wishes with regard to interior fitting.

Even after the completion and delivery of an aircraft, there are many services that need to be provided by a logistics company. Kuehne + Nagel's **inflight services**, which cover the supply of airliners with inflight materials, have enjoyed growing demand for a number of years. The company cooperates very successfully with LSG Sky Chefs, the catering group of Lufthansa whose 200 facilities in 51 countries annually supply around 405 million passenger meals to more than 300 airlines all over the world. Through the joint venture Skylogistix, the two partners bring innovation into the inflight service supply chain through their state-of-the-art systems, dedicated expertise and global presence. The result is a global inflight logistics platform which helps to minimise cost while at the same time guaranteeing first-class service quality.



Supply the Sky: Logistics solutions for the entire life cycle of an aircraft.



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In the **spares & repairs logistics** segment, Kuehne + Nagel's modern inventory management and tracking and tracing systems provide the airlines and their maintenance firms with complete transparency throughout the spare parts supply chain. This allows the efficient planning and management of repair cycles and inventory levels.

Despite the highest safety standards, modern fleets and regular maintenance, technical faults still occur which can ground an aircraft for days. In the event of such a grounding, which can result in high costs for the airline, rapid **incident management** is needed. For such situations Kuehne + Nagel has a team of experts ready who often get to work even before the defective aircraft

touches the ground. This service helps airlines to focus on the repair of the aircraft (and transferring passengers to other flights if necessary), while Kuehne + Nagel takes responsibility for the rapid ordering, worldwide transport and customs clearance of the required spare parts and tools.

The heavy aircraft engines present a special challenge for forwarding and logistics. Under the name **engine logistics** Kuehne + Nagel offers the manufacturers and maintenance firms a relatively new package that provides an integrated solution for this exacting task. Competence teams of specially trained professionals provide support and expert handling, as well as extensive knowledge and expertise. Via Kuehne +

Nagel's global network, they deliver the intricate and time critical aero engines on time to any place in the world.

The *Supply the Sky* concept, which covers virtually the whole life cycle of an aircraft, is a good example of the integrated approach with which Kuehne + Nagel analyses in depth the specific logistics requirements and structural characteristics of a whole branch of industry and incorporates its findings into an efficient industry solution that undergoes constant further development. The company's rapid climb in the field of aviation logistics is impressively documented by the growing number of customers who decide to use the integrated services of Kuehne + Nagel across the entire value chain.

Worldwide production logistics for Airbus

In 2010 Airbus built around 500 aircraft in its factories in Hamburg, Toulouse and Tianjin – more than ever before in the history of this leading aircraft manufacturer. Kuehne + Nagel handles the delivery of production supplies to the component and final assembly plants, and since July 2010 has also been responsible for the production logistics of Airbus Military.

Kuehne + Nagel has already served Airbus for a number of years as the logistics provider at the aircraft manufacturer's plants at Hamburg and Bremen in Germany and Getafe in Spain. On the basis of this experience, following a comprehensive tendering process in 2008, it won the service contract for this customer's entire production logistics. Since then Kuehne + Nagel has entered into a strategic partnership with Airbus, and as Lead Logistics Provider (LLP) it is responsible for all production logistics at the locations in Germany (Bremen, Hamburg and Stade), France (Toulouse, St. Eloi, Nantes and Saint Nazaire), Spain (Getafe, Illescas, Puerto Real, Cadiz and Seville) and the United Kingdom (Broughton). A further logistics location is currently being established in China (Tianjin).

As part of a global cost optimisation programme, Airbus already decided in 2007 to radically transform its logistics management, and in Kuehne + Nagel it found an ideal partner for this ambitious project. The aim was and is to harmonise production logistics in all locations and to amalgamate the many small warehouse facilities into six regional logistics hubs. Processes, systems and code numbers are being uni-

fied in accordance with the best practice principle. For the past two years Airbus and Kuehne + Nagel have worked closely together on the implementation of this programme. The two companies have each established central organisation units in Toulouse to manage implementation projects and day-to-day operations across all locations.

As a strategic partner of Airbus, Kuehne + Nagel plays a significant role in the transformation of the logistics management and is directly involved in the continuous improvement of the processes. The company is playing a leading role in the development and implementation of the new logistics concept for the Airbus A350 XWB, which presents completely new challenges to production logistics as a result of its innovative materials and production processes. Under the direction of the central "Control Tower" of Kuehne + Nagel in Toulouse, a team of specialists is now working jointly with local experts to create a tailor-made supply concept for each location. These concepts are aligned to the special requirements of the A350 XWB production, and adapt the largely standardised processes and equipment to the specific needs of each location.

On the basis of the strategic partnership created by the LLP contract, since 2008 the volume of business has undergone a big expansion as a result of organic growth (additional services at existing locations) and new production plants and work packages. The Stade location and many new direct production supply functions in the Hamburg factory were added in 2010. Since July 2010, Kuehne + Nagel has also been responsible for all Airbus Military production logistics at locations in Spain, Portugal and Australia.

Kuehne + Nagel sees further substantial growth potentials in the expansion of the service spectrum at existing Airbus locations and in customer-specific added-value activities. The extension of the successful LLP concept to other EADS companies is a part of the medium-term strategy of the Airbus parent company. For Kuehne + Nagel the existing contract with this important customer not only generates growth opportunities within Airbus and EADS, but is a milestone project which promotes the further development of the aviation logistics business field and other industry-specific logistics solutions.

