



No room for errors!

The transport by air of temperature-sensitive pharmaceutical products must meet high requirements. When lives depend on the safe arrival of a cargo, there is no room for errors. Kuehne + Nagel applied this principle in the development of KN PharmaChain, and has established itself in an excellent position in this market segment.

The pharmaceutical industry exhibits impressive growth rates. There are various reasons for this, including the availability of modern medical care to larger groups of the population in countries such as Brazil, India and China, and the demographic trend towards greater life expectancy. Furthermore, intensive research has brought major advances in such fields as diagnostics, cancer treatment or



transplantation and personalised medicine. The growing pharmaceutical and health care market is creating a greater demand for efficient global logistics solutions in this field. Demand for transport and logistics services is also growing rapidly in the area of temperature-sensitive goods. These products are vulnerable to damage, generally have a high value and accordingly call for the utmost reliability.

Specific requirements call for special products

In the development of its KN Pharma Chain product, Kuehne + Nagel was guided by the special requirements of the industry. Steven Atcheson, Senior Vice President Global Customer Developments Pharma & Healthcare with Kuehne + Nagel, explains what matters most for the customers: "First of all they expect their products to be delivered punctually, intact and within the specified temperature range. These are the basic requirements." But for a true partnership it is necessary to meet a much wider range of demands, as in-depth conversations with customers have shown. "A preferred logistics partner must have a global network of Best Practice (GxP) compliant temperature-controlled stations, employ specifically trained personnel, possess a state-of-the-art IT infrastructure and observe high security and quality standards." The Kuehne + Nagel specialists have studied these requirements in detail and made every effort to meet them. The airfreight network conforming to GxP standards now comprises roughly 60 stations all over the world, and, as a result of special training programmes, excellently qualified staff are guaranteed. The online tracking and tracing system KN Login offers customers full transparency and enables them to access the status and temperature measurements of their shipments round the clock on seven days per week.

Modern pharmaceutical products consist of many substances which may include bio-technically produced components, primary or test products with living cells or organisms, sophisticated vaccines and the like. Production plants and markets are frequently located all over the globe, so that these products often have to be transported over long distances within a clearly defined temperature range. This in turn calls for

unbroken cold chains from door to door and continuous monitoring over a number of transport modes and interfaces.

Tailor-made refrigeration chain

The product KN PharmaChain, which was launched last year in the airfreight sector, meets these requirements and is offered in four service standards, which differ according to the requirement level. "Level 1" is designed for consignments with no special temperature and handling requirements, while "Level 4" conforms to the highest specifications. The product was developed in line with the requirements of the pharmaceutical industry. "The motto was: 'No room for errors!'," says Marcel Fujike, Vice President Products and Services Global Airfreight. For if high-quality pharmaceuticals are not correctly handled their efficacy may be impaired, or there may be delays in delivery to the consignee who counts on their punctual arrival. For that reason the consignments are monitored round the clock by the KN Pharma Chain Care Team. An electronic warning system also alerts the team if temperatures deviate outside the specified range.

Maximum security through active wireless sensors

As the world's first logistics company, Kuehne + Nagel has developed a system by which the temperature can be actively recorded during flight by means of a wireless sensor. The use of active sensors during airfreight transport is a pioneering achievement which sets new standards in the monitoring and evaluation of door-to-door cool chains. Whereas mobile technologies could not formerly be activated during flight for safety reasons, Kuehne + Nagel has achieved a breakthrough after extensive tests with airline partners. Furthermore, the logistics and warehousing facilities for temperature-sensitive goods have been equipped with special technology to



Strict regulations of the health authorities

A comprehensive service must naturally include the hundred per cent observance of the regulations of the global health authorities, which are becoming progressively stricter as the products grow more complex. This year the EU will bring into force the revised Good Distribution Practice (GDP) guidelines for medicinal products (2013/C 68/01). These take into account the advances that have been made in the products and their transport and storage. The rules laid down in Good Manufacturing Practice (GMP) will accordingly be applied throughout the supply chain from the producer to the consumer.

give customers full transparency as to the temperature data over the whole transport route including all interfaces through the KN Login online tracking system. "With the sensors and the IT system with which they communicate, we enable customers to monitor our performance. This creates a high level of confidence," says Jean Jabsen, Vice President Pharma Health Care and Key Account Manager. "The sensors are small and economically priced. We can also adapt to the latest technological developments without incurring large extra costs."

A practical example

The majority of the temperature-con-

trolled consignments go to pharmaceutical companies or wholesalers who supply directly to their customers – hospitals, doctors, pharmacies etc. However, KN PharmaChain is also suitable for products urgently needed in emergencies, as illustrated by the following case: An antibiotic in liquid form needs to be transported at a temperature between 15 and 25 °C from the USA to Asia, where it is urgently needed for the treatment of an infectious disease. It travels from Chicago via Amsterdam to Singapore. Both Chicago and Singapore are a part of the KN PharmaChain network and therefore in conformity with GxP standards. The infrastructure of the



European Road Logistics offers KN PharmaChain

KN PharmaChain, the service tailored to the specific needs of the pharmaceutical industry, has been introduced in the European road logistics network including Russia and Kazakhstan. The innovative and trendsetting product has been developed jointly by the business units Air Logistics and Road & Rail Logistics. Kuehne + Nagel offers KN PharmaChain both in the Full Load (FTL) and Part Load (LTL) segments and connects numerous European pharmaceutical production sites with the own temperature-controlled distribution centres operated in Luxembourg, Basel and Mainz. These Best Practice (GxP) certified facilities include cool zones for products which must be stored and transported at temperatures between 2 and 8 °C or between 15 and 25 °C. The cross-dock facilities are used as consolidation hubs for temperature-controlled goods and thus play an important role when it comes to optimising the LTL cargo flows. The establishment of additional such hubs is planned, e.g. in Bratislava and Prague. Products handled in the European road network consist mainly of prescription drugs, vaccines, medical devices, OTC medication, pharmaceutical consumer goods as well as raw material and semi-finished products.

facilities and the qualification of the staff meet the standards prescribed by the World Health Organisation (WHO). The transport route and partners are chosen in accordance with risk analyses carried out by Kuehne + Nagel.

The valuable product is transported in a refrigerated truck to Chicago O'Hare Airport, where it is kept in the temperature-controlled warehouse until it is loaded onto the aircraft and leaves Chicago in perfect condition. The active wireless sensors are switched on, as is the alert system which calls for corrective action along the whole route if temperature fluctuations occur. Such

an incident actually takes place, namely at Amsterdam airport. The Care Team asks the airline to make the necessary adjustments, and shortly afterwards the temperature is stabilised at 18.5 °C. The antibiotic now continues its journey from Amsterdam Schiphol to Singapore, where the consignment arrives punctually and is immediately cleared by customs and handed over to the consignee. The record that has been kept during transport from pick-up via Chicago and Amsterdam to Singapore provides certainty that the vital consignment can be handed over in good condition.

