

*trans·o·flex*

# *magazine*



## *Pharma logistics now available worldwide*

- *Global supply chains offering active temperature control*
- *End-to-end service for consignments across all industries*

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### ***Actively tempered to Benelux***

Collaboration with PostNL extended to pharmaceuticals

### ***Clean delivery***

Hydrogen lorries tested in Berlin

### ***Pharmacy deliveries***

Why kohlfarma has extended its collaboration with trans-o-flex

## Security

# ThermoMed Austria fully certified according to TAPA

Three further branches in the trans-o-flex networks have been awarded certificates from the global shipper organisation TAPA for their excellent security processes. These are the Neumünster and Rostock branches of trans-o-flex Express and the Lebring station of ThermoMed Austria. This means that the Austrian organisation is now fully certified in accordance with TAPA FSR 2023 C. A total of 18 trans-o-flex locations are now certified in line with this demanding standard.

TAPA is a global organisation driven by shippers that is dedicated to protecting the supply chain, and especially sensitive and valuable goods. Where

logistics service providers apply the standards and processes developed by TAPA, shippers can be confident that their goods are handled and protected with the utmost care. TAPA (Technology Asset Protection Association) was originally established with a focus on electronic goods. Now, however, all industries with sensitive and high-value goods, such as the pharmaceutical and healthcare sectors, benefit from the development and application of TAPA standards. Certification serves as the official confirmation of this application.



The two new TAPA certificates for Neumünster and Lebring are valid until May 2027 while the certificate for Rostock is valid until June 2027.

## Legal notice

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## Dear readers,

*Global logistics chains and trans-o-flex? Is that a good fit? Or have we perhaps gone slightly overboard with our title heading? Not at all! Otherwise, we wouldn't be able to cite the example of our customer, Medical CNBS Pharma from Cologne, whose cannabis flowers are imported from Canada. We deal with the customs clearance, deliver the raw materials to the customer, and distribute the finished products throughout Germany.*

*Indeed, the development and implementation of worldwide transport and logistics chains constitutes a relatively new addition to trans-o-flex's portfolio. This service is one of the benefits that our customers enjoy by virtue of our membership of the GEODIS Group that operates worldwide. This is due to the fact that, with the aid of GEODIS' expertise, experience and air, sea and land transport networks, trans-o-flex is not merely capable of developing and implementing logistics concepts in Germany and Europe, but also worldwide. This applies to pharma logistics to just the same extent that it does to other industry solutions.*

*But it is not always the big steps that drive a company forward. Much more frequently, and usually with greater levels of sustainability, it's the accumulation of small gains that makes the difference. Examples of this include the expansion of the network in Germany and Europe, where we are increasing our capacities and improving the quality of our services by adding new locations, such as in Bavaria, or by collaborating with partners, as we recently did in the Benelux region.*

*However, we see the greatest potential for optimisation in the field of innovative IT solutions. Here, trans-o-flex is one of the few providers already successfully working with AI solutions such as the digital twin. In this issue, we show you another application that is based on artificial intelligence, namely the automatic recognition of parcels for which the senders have not provided us any data. We also share the results of a test with them where we trialled an AI-supported voice assistant for our drivers. And without wishing to give too much away: It has great potential!*

*This also applies not least to our sustainability initiatives. While heat pumps, geothermal energy, solar panels, charging stations, rainwater infiltration, and high thermal insulation can already be found in many of our new properties, we currently find our hands tied where our fleet is concerned. We do diligently test environmentally friendly technology, such as hydrogen lorries or solar-assisted cooling units. But the breakthrough in e-mobility, especially in the field of temperature-controlled logistics, is still some way off. However, I can assure you that we aim to be among the first to use clean e-vehicle solutions as soon as we can provide our service in a truly sustainable way, i.e. in an environmentally friendly manner, while offering the desired level of service, and cost-effectively.*

*I look forward to keeping you updated on our latest progress towards these goals in the next issue. For the time being, enjoy reading about our current progress!*

Martin Reder  
Chief Executive Officer





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## Countering cyber attacks

## New ISO certification for enhanced data security

IT departments across the globe are now engaged in a war on 2 fronts every single day. Internally, they must ensure that the hardware and software used keep company processes running efficiently and smoothly; externally, they must ensure that hackers are unable to find any vulnerabilities and have no chance to deploy ransomware to cripple company operations (see box). Where data protection is concerned trans-o-flex IT-Service GmbH, which is responsible for all IT matters across the entire trans-o-flex group, has now made a significant step forward. Our IT specialists were the first company in the GEODIS Group to be certified in accordance with the ISO 27001 standard.

“In order to enhance security against hacker attacks and continuously adapt our standards, we have implemented an Information Security Management System – ISMS for short,” says Stefan Thömmes, Managing Director of trans-o-flex IT-Service GmbH. “A detailed questionnaire is used to derive both the technical measures and describe the associated IT work processes using process descriptions.” Thömmes deliberately does not provide details here to avoid giving hackers any clues, but he does emphasise, “Due to the rapid evolution of attack methods, certification must be ongoing process and devices and processes must be continuously kept up to date.” ISO 27001, as a doc-

umentation and control tool, is now regarded as industry benchmark for IT security. TÜV-Süd has audited and certified the IT-Service ISMS according to this standard.

“The certification can also help reduce the workload involved in audits or tenders from customers,” adds Thömmes. This is because detailed, multi-page questionnaires on IT security have become the norm there. “By referencing our ISO 27001 certification, we can now demonstrate in the future that our company’s IT is operated to high security standards.” The new certificate confirming compliance with ISO 27001 was obtained by trans-o-flex IT-Service this May. Since 2019, the company has also been certified according to ISO 20000, the internationally recognised standard for IT service management (ITSM).

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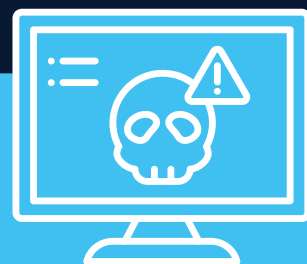


The certificate, which confirms that trans-o-flex IT-Service GmbH complies with the ISO 27001 data security standards, is valid until 2027.

## Attacks on corporate networks: how they work and what they mean

What exactly is behind the cyber attacks on companies? And what does it mean for a company to have been “hacked”? In most cases, these are ransomware attacks. For instance, “malicious” links or attachments are sent via phishing emails. If a user clicks on the link or attachment, hackers attempt to install malware on the user’s computer by means of automated programmes. If this attempt succeeds, the attackers now have a foot in the door to the re-

spective company network. Once they have control over one computer, they use it to gain control over as many devices as possible. Sometimes this only takes a few days, sometimes weeks. The hard drives are then encrypted, rendering them unusable and the attackers demand a ransom from the company to unlock the PCs. Police and security authorities warn against paying such ransoms, as there is no guarantee they will actually unlock the



computers or that the attempt at extortion won’t be repeated. In the wake of global conflicts, ransomware attacks are also increasingly politically motivated and do not only have an impact on companies but also on political organisations and authorities. The people behind these attacks are trying to destabilise other societies. Several hacker attacks have been linked to Russia in this context.

## Awards

## trans-o-flex named “Customer Favourite 2024”



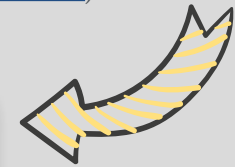
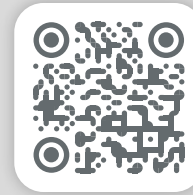
According to the latest Germany Test conducted on behalf of the Fokus Money magazine, trans-o-flex is the “Customer Favourite 2024” in the transport and logistics companies category. trans-o-flex is by far the most popular company in the industry. “Such awards are important in confirming we are on the right path, due to the fact they show how positively our trans-o-flex brand is perceived,” says Managing Director Sales Eugen Günther. “Everyone prefers to work with companies they know and like.” The study is available online ([bit.ly/studie\\_kundenliebling](https://bit.ly/studie_kundenliebling)). The methodology of the study is also explained transparently there.

es sector and was awarded first place in customer service category. More than 197,000 decision-makers’ judgements on a total 1,388 companies across 112 industries were included in the customer survey.

The Süddeutsche Zeitung, in collaboration with a market research firm, compiled a customer satisfaction ranking. Here, trans-o-flex was awarded “High Customer Satisfaction” in the courier-express-parcel service sector. The detailed results of the ranking were published online in the Süddeutsche Zeitung ([bit.ly/studie\\_kundenzufriedenheit](https://bit.ly/studie_kundenzufriedenheit)).



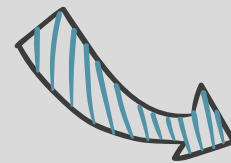
*This code leads you to the  
Customer Favourite survey  
(only available in German).*



*This code leads you to the  
Customer Satisfaction survey  
(only available in German).*

In addition to the study on the customer favourites of Germans, trans-o-flex was also honoured in three other surveys. This includes the German B2B Award 2024, which we have already received for the third time this year. In this survey decision-makers are concerned with evaluating the areas of customer satisfaction, customer service, and value for money. Here, trans-o-flex was assigned to the express courier service

Finally, trans-o-flex was also placed in the top group of the parcel/courier services sector in the customer service category in a survey conducted by the Wirtschaftswoche magazine. Wirtschaftswoche reported on the survey in their 18/2024 issue and online under the title “Customer service is getting worse – these are the positive outliers” ([bit.ly/studie\\_kundenservice](https://bit.ly/studie_kundenservice)).



*This code leads you to the  
Customer Service survey  
(only available in German).*





## Anniversary

## 50 years of collaboration with Wort & Bild

The publisher Wort & Bild (W&B) has been one of trans-o-flex's largest customers for 50 years. trans-o-flex delivers W&B's health magazines twice a month to pharmacies throughout Germany. These include Apotheken Umschau, Apotheken Umschau ELTERN, Diabetes Ratgeber, Postermagazin medizini and Senioren Ratgeber. "We receive a customised and reliable service from trans-o-flex," said Jan Wagner, Managing Director of the publishing house, on this anniversary. "Through this and the individual support provided by our personal contacts a great deal of trust has been generated, which we greatly value and which makes the collaboration very pleasant."



Flowers, a certificate, and a logo were presented on the occasion of the anniversary to Barbara Uitz, Head of After Sales Service & Processes, and Jan Wagner, Managing Director of Wort & Bild Verlag, by Olaf Brzinzky, Head of Key Account Management, and Athanasia Georgaka, Key Account Manager at trans-o-flex.

## Pharma Customer Forum

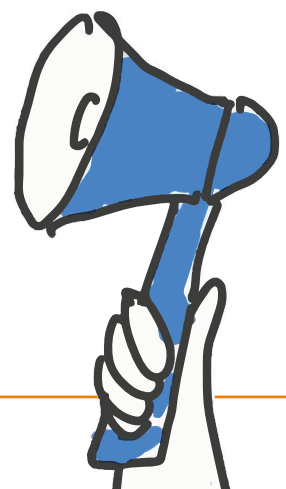
## Direct exchange with industry experts

The Pharma Customer Forum has established itself as a permanent fixture in trans-o-flex's annual calendar. What was now the eighth edition of the event took place on 16 May in Mannheim. Throughout the day, eight representatives from pharma clients interchanged ideas with the same number of trans-o-flex employees. To begin with the morning was packed solid with information. CEO Martin Reder thus provided an overview of the company's current

core topics. Other presentations covered the customer survey as a building block in trans-o-flex's quality offensive, special customer solutions (such as reusable boxes), the current steps to optimise deviation management and improvements in transparency in the logistics chain. In the afternoon, three topics were explored in greater depth in short workshops.



Participants of the Pharma Customer Forum take time out for a group photo above the rooftops of Mannheim.



## Pharma logistics

## Engaging with pharmacists

With a presentation on “The Future of Pharma logistics”, trans-o-flex sought to engage in conversation with pharmacists at the 18th Zwischenahner Dialogues. The event, organised by the Lower Saxony Pharmacists’ Association, focused on the topic of “Secure Medicine Supply in the Digital World”. On behalf of trans-o-flex, the Head of Strategy, Commercial & Marketing, Lutz Blankenfeldt, highlighted

the enormous challenges facing the field of pharma logistics in light of the increased demand for near-shoring solutions and demographic changes in the EU. “We can only overcome these challenges by means of innovative solutions, and that is precisely why we at trans-o-flex are working so intensively on solutions based on artificial intelligence (AI).”



## Veterinarians

## VetLogOne sends the millionth reusable box

At the beginning of September, VetLogOne GmbH shipped its millionth reusable box via trans-o-flex. The logistics subsidiary of the Wirtschaftsgenossenschaft deutscher Tierärzte (Economic co-operative of German veterinarians) only began switching from shipping cartons to environmentally friendly reusable boxes in the third quarter of 2023. “This more sustainable solution is also appreciated by our customers,” says Andreas Mahn, Managing Director of VetLogOne. “Regular customer surveys reveal that the reusable box has led to higher levels of customer satisfaction. In addition to their sustain-

ability, customers also appreciate the fact that they don’t have to dispose of any shipping boxes and can simply return the reusable boxes to the driver on their next delivery.”

“Transporting the one millionth reusable box for a customer within such a short period of time is indeed a special milestone,” said Justus Buchheister, Managing Director of pool operator Smart Container Loop. “The tof.ecobox demonstrates how well environmental protection and process optimisation can be merged.” And it is not the only particularly sustainable logistics solution provided by trans-o-flex that VetLogOne uses. The company also makes use of H1 pallets. The orange plastic pallets replace wooden Euro pallets for the collection of mixed pallets at the VetLogOne warehouse. Because they are lighter, more durable and remain hygienic, their transport-related carbon footprint is significantly better than that of the classic wooden pallet.



*Normally, the tof.ecoboxes are green. In order to celebrate the one millionth shipment that was transported with one of the reusable transport boxes at the customer VetLogOne, the participants are presenting a gold-coloured box here. The photo shows (from left to right): Mariam Gründel, Key Account Manager at trans-o-flex; Andreas Mahn, Managing Director of VetLogOne; and Justus Buchheister, Managing Director of Smart Container Loop, the box pool operator.*



Operations commence in May 2025

## Bavaria: transhipment centre with more synergies

More capacity, more synergies, more efficiency. These are the key words for the new site that the express service trans-o-flex, which specialises in pharmaceuticals and other sensitive goods such as cosmetics and electronics, is constructing in Steinach, Bavaria. The new logistics centre, where the topping-out ceremony was recently held, is located directly on the A3 motorway between Regensburg and Deggendorf. “The new transhipment centre not only helps us to increase our capacities, but also enables us to generate further synergies between our two networks,” said trans-o-flex CEO Martin Reder at the topping-out ceremony. “To date, both trans-o-flex Express and trans-o-flex ThermoMed had separate sites in this region. In the future, both networks will operate under one roof.” To this end, a completely temperature-controlled transhipment centre is now being constructed on a 33,360 square metre site. The larger area is intended for the ambient handling of goods at 15 to 25 degrees Celsius and a smaller area for refrigerated goods, which are handled and transported by trans-o-flex ThermoMed at 2 to 8 °C. The centre is scheduled to open in May 2025.



“One major difference is the increased sustainability compared to the previous system,” explained Reder. “Solar panels will be installed on the roof and we will use the electricity they generate in the centre itself, to operate the heat pump for the heating or supply it to the charging points for our employees’ electric cars.” Connections are being prepared for the future charging of e-trucks and e-transporters. “The sorting centre offers high levels of thermal insulation due to its active temperature control system, LED lights provide plenty of light without much electricity and all the rain that falls on the roofs and sealed surfaces of the site is collected and channelled into the drainage system in a controlled manner.” Last but not least, noise barriers that are completely greened will be erected around the site. The centre is operated in combination with a free cooling system to minimise the use of its energy-intensive air conditioning system. The air conditioning system only has to be put into operation once the desired temperature in the centre can no longer be achieved by means of air circulation through the supply air grilles and exhaust air fans. In this way, the temperature control required for the safety of the sensitive goods being transported is guaranteed at all times, combined with minimised levels of energy consumption.



The topping-out ceremony was attended by (from left): Christine Hammerschick, First Mayor of Steinach, Hans-Peter Fleißner, Construction Supervisor, Martin Reder, CEO of trans-o-flex Express, Dietmar Nunne, Managing Partner of Kögel & Nunne Bau, and Maik Linnemüller, Project Manager at Kögel & Nunne Bau.





Cover story

# *Pharma logistics now available worldwide*



***In collaboration with GEODIS, trans-o-flex customers are able to establish global supply chains – active temperature control from 2 °C to 8 °C or 15 °C to 25 °C is possible for land, air, and sea freight – tailor-made logistics solutions for the market launch of new products or generics – end-to-end service for consignments throughout all industries***

“Thanks to the takeover of trans-o-flex by GEODIS and the resulting collaboration, our customers’ opportunities to establish global logistics chains have significantly increased,” says trans-o-flex CEO Martin Reder. “This applies in particular to the pharma sector, as we were previously lacking the necessary expertise in the air and sea freight sector.” GEODIS has now filled this gap. Holger Eberhard, Manager of International Development at trans-o-flex, coordinates regular meetings between the two organisations. One of his key contacts is Stefan Winckelmann. The 57-year-old works at GEODIS as Director for Pharma & Healthcare. In this role, he solely focuses on providing solutions for this industry, having previously specialised in it for a number of the global logistics providers. >>

*Stefan Winckelmann, Director  
Pharma & Healthcare GEODIS*

Winckelmann cites a customer example to provide an impression of the scope and complexity of the tasks involved: “On the one hand, we transport preliminary products to the production sites on behalf of a large pharmaceuticals manufacturer, and on the other, we take the finished products from the various plants to the distribution centres responsible for the respective target markets.” For this customer alone, GEODIS flies around 40,000 Euro pallets weighing some 5,100 tonnes per year and ships 3,200 TEU (twenty-foot equivalent units), which corresponds to around 1,600 full truckloads. “We had the largest volume flows from seven plants in Brazil, China, France, the UK, Indonesia, the Netherlands and Sweden to 65 destinations worldwide. The destinations include China, Japan, Saudi Arabia, the USA and the United Arab Emirates.” Winckelmann is particularly proud of the fact that all agreed KPIs were not only met, but exceeded.

GEODIS organises the logistics chains in line with the stability data of the pharmaceuticals. Winckelmann: “In the case of the temperature-controlled



*Holger Eberhard,  
Manager International  
Development trans-o-flex*



consignments, we have and are seeing the greatest levels of growth in the 2 °C to 8 °C range, but in terms of the total volumes to be shipped, the 15 °C to 25 °C range still accounts for the majority of shipments.”

“Thanks to the four business units Road, Freight Forwarding (Air, Ocean, Customs Clearance), Distribution & Express and Contract Logistics, GEODIS is not only available to trans-o-flex customers for global end-to-end solutions in the air and sea freight sector,” adds Eberhard. “In collaboration with GEODIS, we can collect goods worldwide for trans-o-flex customers, clear them through customs in the destination country, and then deliver them to a warehouse or distribute them through our own networks in Germany and Austria.” Their final distribution in other countries is also possible in principle. “For instance, the partner PostNL

Pharma & Care is used for actively temperature-controlled consignments in the Benelux countries, while other proven partners are commissioned for consignments without temperature controls in





other countries.” Consignments for Germany mainly arrive by air freight at the airports in Frankfurt, Amsterdam and Paris, and by sea in Rotterdam, Antwerp, Bremerhaven and Hamburg. “The customer always chooses whether they want total temperature control, just temperature monitoring or shipments without temperature control,” says Eberhard. “We can now manage end-to-end logistics globally throughout the entire supply chain, regardless of whether it’s new products, vaccines, generics, cosmetics, or other items.”

In the field of pharma logistics, GEODIS focuses on worldwide product launches in addition to regular shipments for the production supply or disposal. “Our expertise and experience with pharmaceutical product launches set us apart from other companies,” claims Winckelmann confidently, adding, “many other logistics providers shy away from the initial investment in time and personnel and therefore don’t get involved in this area.” The background is that, during the product launch phase, a company that has reached Phase III with a drug sends the new product to regulatory authorities in various countries to obtain the final approval and patenting for the respective market.

“Sometimes this involves a mere 50 consignments, each the size of an injection syringe, yet the best route with the least risk still needs to be meticulously selected.” Security mechanisms and backup solutions must be developed and maintained, in just the same way that they would in a mass-market operation, because regardless of the quantity, the product is always subjected to the same shipping requirements. “You have to put in almost the same amount of effort regard-



## *What is a route risk assessment?*

The term assessment centre may be familiar to you from job applications in which several candidates are assessed in groups. But what is a route risk assessment in the field of pharma logistics? Just imagine you had to transport a vaccine from Germany to São Paulo. Before the first dose takes off, the entire chain has already been screened by way of a route risk assessment. This involves a multitude of details: When should the goods be transported? What temperatures can be anticipated en-route? Where will the goods be collected, who will drive them, which airline will take over, where will they be temporarily stored, and where will they be flown to? We are conducting an assessment on how well the airport in São Paulo is equipped. What storage capacity is available? What connection options are present for actively temperature-controlled containers? An escalation matrix is also being developed.

less of whether you're transporting just one syringe or 100,000 syringes with a vaccine to Brazil." Winckelmann refers to a "significant investment" that the logistics provider needs to make at the start of a product launch. But why does GEODIS go to all this effort and expense if the shipping costs are not initially covered? "Once we've proven that we can manage the required logistics chain, we have a good chance of securing the contract for the broader market launch and the subsequent regular deliveries," Winckelmann explains. "That's what we are building on."

There is another reason, however, for our successful collaboration extending beyond the market launch. "We also stand out from the others because, in recent years, we've focused specifically on innovative, valuable, and sensitive products during launches and proven our expertise," says Winckelmann. "These often require complex supply chains involving multiple modes of transport, and always come with the requisite temperature control and monitoring." This is GEODIS' specialist field. In this area, the timing of the logistics chain is just as critical as its security "Only then is the availability of a new product ensured in the selected countries during its launch." By way of example, the manager cites the launch of a new prod-



uct for the treatment of psoriasis. "It originated in Germany and was launched in China, Japan, Singapore, and the USA." The drug, based on monoclonal antibodies and requiring transport and handling entirely at temperatures of 2 °C to 8 °C, had a very high market value. "We exclusively used special containers with active temperature control to ensure the required temperature was maintained."



## What is CEIV certification?

The pharmaceutical industry is much more reliant on air freight than most other sectors. This is because air freight can ensure that high-value, time-sensitive, and temperature-controlled products reach their destination safely and intact. However, not all players can consistently deliver the reliable quality required for pharmaceuticals. That's why the International Air Transport Association (IATA), in collaboration with the aviation industry and regulatory authorities, established the Centre

of Excellence for Independent Validators in Pharma logistics (CEIV Pharma). CEIV Pharma addresses the industry's need for greater safety, compliance, and efficiency by offering a globally consistent and recognised certification for the handling of pharmaceutical products. GEODIS is among the companies that hold CEIV certifications.

The challenges are slightly different in terms of the product launches of generics, where GEODIS is also active. Here, the investment in developing the logistics chain from the outset is offset by the profit margins of the mass market. “The specific requirement for launching generics is the speed of its widespread rollout,” Winckelmann explains. “Typically, the company that gets its generic product to the point of sale first, subsequently secures the largest market share.” Where the refined distribution in Germany is concerned, GEODIS depends on its collaboration with trans-o-flex. “We can store the new generics to be imported in one or more warehouses outside Germany and then drive the generic drug across the border at midnight on the day the patent expires and feed it into the trans-o-flex network so that it is in stock in pharmacies throughout Germany in the morning.”

“We are very pleased that we can now offer our customers all of these services in collaboration with GEODIS,” concludes trans-o-flex’s CEO Martin Reder. “This has brought us a big step closer to our goal of offering a one-stop shopping service for all our customers’ logistical challenges.” ■



### *Traffic light system: risk minimisation for the logistics chain*

GEODIS uses a traffic light system to minimise the risks for international pharma logistics chains. “The principle is simple,” says Stefan Winckelmann, Director of Pharma & Healthcare at GEODIS. “Prior to shipment, we closely examine the potential risks and rate the individual process stages as green, yellow and red. If everything is flagged green, we can make a start. If it’s flagged up red, we advise the customer against it and look for alternatives.” When all lights are green, a test consignment is sent. “We use this traffic light system for all routes and for all modes of transport. It is created individually per customer, per flight, per project and is also stored in the Standard Operating Procedures (SOP).”



**Intercontinental logistics chain**

# Cannabis from Canada

*How trans-o-flex became a distribution partner for medical cannabis in Germany*

When Medical CNBS Pharma GmbH first approached trans-o-flex, the company only required a nationwide solution for the actively temperature-controlled refined distribution of medical cannabis to pharmacies throughout Germany. The concept was rapidly finalised. Unsurprisingly since the nationwide delivery of pharmaceuticals is a core business activity of trans-o-flex. However, the demands soon markedly increased due to the fact Medical CNBS Pharma expanded its business model, also taking on the global import of raw materials and the pharmaceutical production of cannabis products. The cannabis flowers were to be sourced from Canada – because, according to Medical CNBS, “the highest quality cannabis in the world is produced there”. Would trans-o-flex also be able to offer a solution for this?





*The cannabis flowers for Medical CNBS Pharma are grown under controlled conditions in Canada. Cannabis was legalised there in autumn 2018.*

The solution was developed in collaboration with GEODIS, the French parent company of trans-o-flex with a global reach. In order to overcome all the hurdles in the complex import procedure for herbal narcotics, GEODIS experts were commissioned to deal with the customs declaration at Frankfurt Airport. In collaboration with the client, they developed the following process for the import customs clearance: as soon as the goods arrive in Frankfurt by air freight from Halifax, Canada, they are automatically taken to the designated perishable goods warehouse. GEODIS is informed of the arrival at the same time. Here, it suffices to make a note on the air waybill: “Notify Party” – followed by the GEODIS address in Frankfurt’s Cargo City Süd. Following the arrival of the goods, GEODIS transfers them to their own temperature-controlled warehouse for temporary storage.

The GEODIS team prepares the customs declaration while the goods are still in the air. To this end, they require the export and import permits from Medical CNBS Pharma as well as the air waybill, a commercial invoice, and a packing list with the dimensions and weights of the consignment from the shipping agent in Halifax, which is sent by email. As soon as the consignment has been cleared by the main customs office, GEODIS issues the forwarding agent’s transfer note and trans-o-flex collects the consignment at Frankfurt Airport.

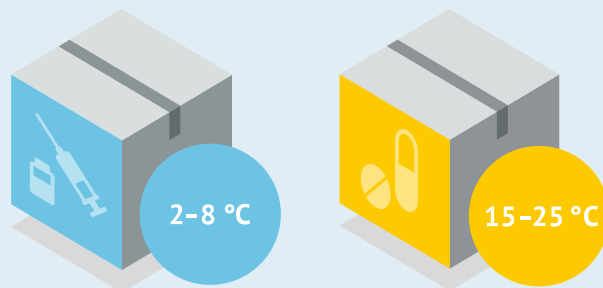
The shipment from Frankfurt to Cologne is organised by trans-o-flex’s line haulage department. The cannabis flowers are also actively temperature-controlled in the ambient range (of 15 to 25 degrees Celsius) during this direct journey. Once the goods have arrived safely at the Medical CNBS Pharma warehouse, the company can start preparing the goods for the German market. Following the laboratory test and market approval, Medical CNBS Pharma picks the orders from the pharmacies, prepares the parcels for dispatch and transmits the consignment data to trans-o-flex. And finally, the Germany-wide distribution concept that was originally developed will be applied.

Conclusion: The first cannabis shipments were flown across the Atlantic to Germany in October 2023, marking the launch of the entire logistics concept. And how have things been going since then? “trans-o-flex provided us with professional support right from the start and the collaboration with GEODIS for the customs clearance worked smoothly,” reflects Sebastian Fröhlingdorf, Managing Director at Medical CNBS Pharma. “It’s very reassuring to know that our logistics are in reliable hands.”

## Pharma logistics

# PostNL and trans-o-flex enhance their long-standing partnership

*Collaboration now also encompasses the area of temperature-controlled shipments: PostNL Pharma & Care Benelux handles consignments at temperatures of both 2 to 8 degrees Celsius and also 15 to 25 degrees Celsius*



The long-standing partners trans-o-flex and PostNL have enhanced their collaboration to include temperature-controlled logistics solutions for pharmaceuticals. To this end, trans-o-flex Express and trans-o-flex ThermoMed now exchange temperature-controlled consignments from Germany and Austria with PostNL Pharma & Care Benelux. “Since 2015, PostNL has built distribution network exclusively for consignments requiring active temperature control in the range of 2–8 °C and 15–25 °C, in addition to their traditional Post and e-commerce business,” states Michael Löckener, Chief Operations Officer at trans-o-flex. “PostNL’s GDP network meets all EU requirements for pharma logistics, enabling us to offer our customers a GDP solution for all three Benelux countries through a single partner.” In return, PostNL integrates international temperature-controlled consignments from the Benelux countries within the trans-o-flex network for delivery in Germany and Austria.

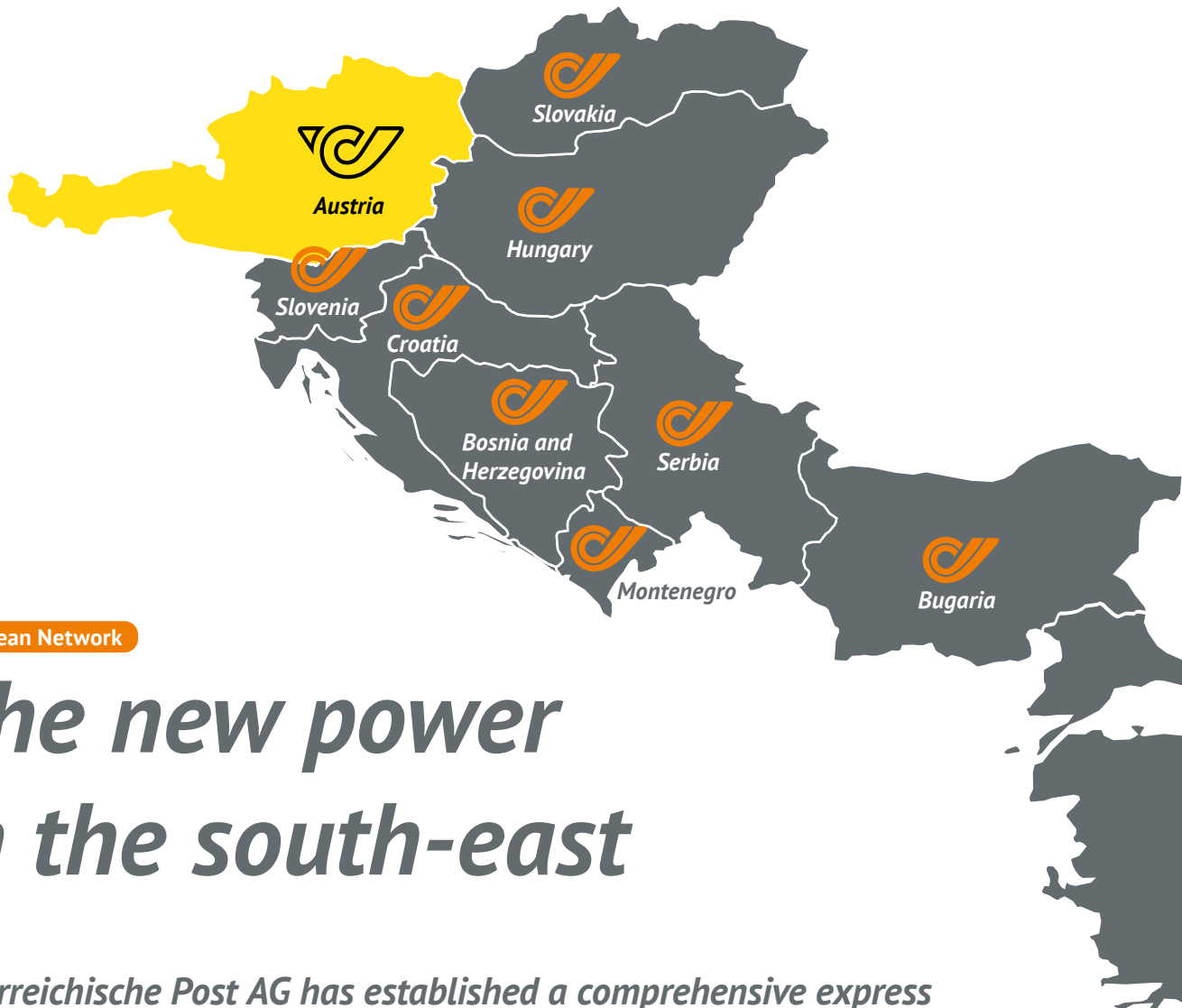


“In addition to our leading position in the field of post and e-commerce logistics in the Benelux countries, we are striving to become the market leader in several specialised markets such as the health sector,” explains Huub Zijlstra, Managing Director of Pharma & Care Benelux at PostNL. “We have over 25 years of experience in the health-care market in Belgium and more than 10 years in the Netherlands. We feel there significant growth opportunities in the pharmaceuticals and health-care sectors. Due to the specific rules and regulations that apply in this sector, and also in view of the growing market and changing distribution channels, we feel there is an increasing need for specialised logistics offering active temperature control.” PostNL is therefore continuously investing in its pharmaceuticals and healthcare network. Zijlstra adds, “Through the new partnership with

trans-o-flex, we are expanding our international GDP network connections. In view of the market developments in the Benelux countries, we believe that a strong partnership in Germany and Austria will help our customers extend their geographical reach.”

Irrespective of this, PostNL and trans-o-flex already collaborate in the field of international consignments that don't involve temperature control. Both companies are partners in the EURODIS network, which collects and distributes parcels and pallets across 38 European countries. Löckener adds, “PostNL has impressively proven in the past that they are a reliable and innovative partner. We are therefore delighted to be able to extend our collaboration to the field of pharma logistics.”





#### European Network

## *The new power in the south-east*

*Österreichische Post AG has established a comprehensive express network in ten countries outside its home market – Eight country organisations are already partners in the EURODIS network, providing new impetus and sales volumes*

Austrian Post AG has become an indispensable player in Southeast Europe. Over the past two decades, without any great fanfare but very determinedly, the Austrians have established an express network that covers no less than ten countries outside their domestic market. The westernmost country is Slovenia, and the easternmost is Azerbaijan, with Croatia, Hungary, Slovakia, Bosnia and Herzegovina, Montenegro, Serbia, Bulgaria, and Turkey in between. Eight of these countries

have already been unified under a single brand with a stylised orange post horn and are partners in the EURODIS network. Aras Kargo in Turkey and Starex in Azerbaijan offer additional potential for further expansion.

While a completely new organisation has been set up in the form of Express One Slovenia, established companies have been taken over in the other countries to speed up the development of the network.

Österreichische Post AG's subsidiaries cover ten countries in addition to its domestic market. All organisations with the stylised orange post horn, as well as Austrian Post itself, are also partners in the EURODIS network of trans-o-flex. In 2023, the companies belonging to Austrian Post transported a total of 476 million parcels and employed almost 30,000 people in all eleven countries shown. 22,500 vehicles are in operation from 522 logistics locations and deliver to around 11,800 manned and unmanned parcel stations in addition to home addresses.



The use of the established brand name is the reason why not all the national organisations have yet been called Express One, but instead Overseas Express in Croatia, for instance. However, the orange post horn in front of the name already signals their affiliation with the group externally.

“For EURODIS, the south-east European partners around Express One are a strong and reliable group with innovative ideas and a significant driver for the development of volumes in the network,” says Jens Reibold. He is Managing Director of EURODIS

GmbH, which manages the network for the joint shipment of international parcels and pallets that operates in 38 European countries. “The recent EURODIS quality competitions impressively emphasised just how good the performance of the Express One companies is.”

For the first time since the introduction of the annual internal quality competitions at EURODIS, all three awards went to partners of the Express One brand. The prize for the best operational quality went to Express One Slovakia, while its sister com-





pany Express One Hungary won in the sales and customer service categories. Solely in the customer service competition was there another winner, in Germany's trans-o-flex Express. Both companies achieved the same score.

EURODIS uses the quality competition to measure the operational excellence of its partners. The ranking is based on the criteria of transit times, data transmission, status information and proof of delivery. This operational data is measured and analysed daily in order to control and continuously improve the processes.

EURODIS members compete in the sales competition backed by proven sales concepts and success stories. "This is based on the idea of best practice learning," says Reibold: "In a cooperative network such as EURODIS, we urge our members to learn from each other. We encourage them to adopt the best solutions for their country."

The main evaluation criteria for the award of best customer service are the speed and quality of the response to enquiries by members. A ticket system is set up for this that measures how quickly a cus-



*Jens Reibold, Managing Director  
EURODIS GmbH*

tom enquiry is taken up and dealt with by a partner. The winner of this competition is selected in two stages. "Every customer service team is aware of the ranking of the ticket system," explains Reibold. "The customer service teams vote for the winner so that other aspects of the collaboration can be taken into account in addition to this entirely number-based assessment." This year, Express One Hungary received exactly the same number of votes as trans-o-flex. "That's why we had two winners in one category for the first time."

For trans-o-flex's customers, the Southeast European partners ensure that packages and pallets can be both delivered and collected in the Balkans. This applies to the EU countries there as well as to countries that are not yet EU members, such as Bosnia and Herzegovina, Montenegro or Serbia. The requisite customs clearance also forms part of the Express One service. The EURODIS standards are also implemented, such as at least two delivery attempts, end-to-end consignment tracking and delivery receipts. Cash on delivery plays a special



role here. “It has an enormously high share of 2C consignments in the countries of Eastern and South Eastern Europe, of between 65 and 95 per cent,” explains Reibold. “This is another reason why the companies under the Express One brand name are increasingly providing impetus in the 2C and C2X sectors in addition to traditional B2B shipments.”

Not only can cash on delivery consignments be paid for in cash by the recipient in all countries, but cashless payment options are also increasingly being offered. “In Hungary, Slovakia, Slovenia, Croatia, Bulgaria, Serbia and Turkey, online and card payments are already possible for cash on delivery.” In order to ensure that deliveries to private addresses in particular are successful at the first attempt, the country organisations have launched

a wide range of service initiatives. The services range from advance notification and the switching of the delivery date to time slot delivery, delivery to neighbours or delivery to a parcel shop or parcel station.

With their specialist expertise in the fields of national and international e-commerce, Österreichische Post AG’s express organisations are not only a highly sought partner in their respective countries, but also serve as a gateway to Europe for non-European shippers. “A large portion of the strong levels of growth we have achieved at EURO-DIS in recent years has come via the Express One organisations,” says Reibold. ■





More than 600,000 consignments per year

# Flexible deliveries from Tuesday to Saturday

***Moving away from passive temperature-controlled shipments: kohlpharma expands its collaboration with trans-o-flex – following extensive testing of pharmacy deliveries***

Germany's largest importer of pharmaceuticals has been a customer of trans-o-flex for more than 20 years. This year, however, the collaboration has been taken to a whole new level. While kohlpharma GmbH mainly handed over consignments to trans-o-flex that were destined for pharmaceutical wholesalers in the past, trans-o-flex now handles the majority of the company's transported volumes. Additionally, all temperature-sensitive pharmaceuticals are now shipped using active temperature control. Previously, kohlpharma used a passive solution involving special thermal boxes. "These are now superfluous at trans-o-flex, which not only reduces the weight of the consignment but also makes handling significantly easier as there's no obligation to return the thermal boxes," explains Eugen Günther, Managing Director Sales at trans-o-flex.

The expansion of the collaboration has significantly increased the volume that kohlpharma has distributed daily via trans-o-flex. There are now more than 600,000 consignments a year. They are either delivered as part of the ambient service (15 to 25 degrees Celsius) via trans-o-flex Express or the refrigerated service (2 to 8 degrees Celsius) via trans-o-flex ThermoMed. "kohlpharma almost exclusively hands over pharmaceuticals to us that are actively temperature-controlled during the handling and transportation," Günther continues. "We collect all the goods from the customer's central warehouse in Merzig, Saarland, and feed them directly into our networks from there." The ambient volume is routed to the trans-o-flex branch in St. Ingbert (Saarland), while the refrigerated volume is sent to the ThermoMed central hub in Bau-natal (Hesse). "In this way, we ensure through both





networks that nearly all goods reach wholesalers and pharmacies in Germany by the next day, even in the case of the standard service without guaranteed delivery times.”

kohlpharma uses trans-o-flex’s Saturday service for all Friday goods to ensure that this also takes place for goods ordered by customers on a Friday. This means that no consignments from kohlpharma need to be delivered on Monday. “The fact that trans-o-flex offers this flexibility and can easily deliver larger quantities on Saturdays was one of the reasons why we intensified our collaboration,” states Anne Frank, who is responsible for the central logistics purchasing at the pharmaceuticals’ importer. “This flexibility also includes the fact that while we ship the majority of our volumes as standard shipments, there are times when we have to ship individual consignments with higher levels of urgency.” For these, kohlpharma primarily uses time-defined services with delivery by 10:00 a.m. or 12:00 p.m. “The fact that we can utilise this entire range of service options without having to switch service providers makes the collaboration much easier.” >>

## A meteoric rise

The company, founded in 1979 by Edwin Kohl, has focused on pharmaceutical imports since 1981, initiating a meteoric rise. In around 20 years, the company based in Merzig, Saarland, has developed from being a one-man business into Germany’s largest importer of pharmaceuticals. While ten years after the company was founded, turnover was still at just DM 15 million, by 2001 it had already passed the DM 1 billion (€ 514 million) mark. Now more than 800 employees generate revenue of € 700 million.

[www.kohlpharma.com](http://www.kohlpharma.com)



*“The switch to active temperature control has made us much more sustainable and goes hand in hand with lower handling costs,” says Anne Frank, who is responsible for the central logistics purchasing at kohlpharma.*

Although this offer was already known, kohlpharma conducted extensive tests with trans-o-flex once more before gradually transferring the volumes to be shipped over the course of this year. “The tests proved very successful and bore out our decision to switch,” explains Anne Frank. “The fact that we were able to switch to an actively temperature-controlled logistics chain at the same time is also positive from our point of view.” kohlpharma had already been considering switching, as far as possible, to an actively temperature-controlled distribution logistics. “This step allowed us to accomplish this change at the same time, and now, due to the transition, we operate in a significantly more sustainable manner and have reduced the amount of handling work involved.”

Together with trans-o-flex, kohlpharma developed a step-by-step plan for the switch. The first step in December last year was to test how well trans-o-flex delivers consignments to pharmacies. “This went very smoothly and successfully from the start,” says Frank. As a result, kohlpharma has steadily increased its pharmacy deliveries via trans-o-flex since the beginning of the year. The number of additional pharmacies onboarded was increased weekly. The process was brought to a conclusion in February, and the entire volumes to be shipped, which were previously transported using passive temperature control, are now transported with active temperature control via trans-o-flex. Frank adds, “We have not regretted this change so far – on the contrary! Numerous processes have been improved, simplified, and trans-o-flex is now fully committed as our primary service provider for refrigerated goods, both towards us and our customers.” ■

*The distribution of pharmaceuticals starts at kohlpharma's outgoing goods department in Merzig, Saarland.*





New initiative

# *Experiences that make customers happy*

*Since February, trans-o-flex has been working on a project with the potential to transform the entire organisation: Touchpoints – What its goals are and how it is organised*

A hiker has lost his way. For two hours, he has been wandering around aimlessly in the Tyrol mountains. He finally meets someone and asks him for directions. This person points vaguely in one direction, mumbles something incomprehensible afterwards and walks off. Shortly afterwards, the hiker meets another person and asks for directions once more. This time, the hiker is guided part of the way to the next turn that he could have easily missed, he is given a few encouraging words and a clear explanation of the route ahead.

“One and the same situation – but two completely different experiences,” says Lutz Blankenfeldt. The Head of Strategy, Commercial & Marketing used the example of the hiker to explain the Touchpoints project, which falls within his area of responsibility. “It affects all areas, all employees, and all processes within our company while offering the potential to transform trans-o-flex.” How can a single project take on such significance?





“Basically it concerns the question of where do we make our customers happy - and where have we been unable to make them happy so far?” says Blankenfeldt, who has been working at trans-o-flex since 2016. “Touchpoints are all points at which customers have experiences with trans-o-flex – and which then trigger a positive or negative reaction.” According to Blankenfeldt, this does not only concern operational blunders, such as when a customer is annoyed because a consignment has arrived late. “It could also be the case that the invoice contains errors or is incomprehensible. It could be the driver whose vehicle is dirty or whose appearance is unkempt. It could be the Customer Service department, which responds to a customer complaint in an unfriendly manner or not at all.” In such cases, the negative customer experience leads to customers feeling disappointed with trans-o-flex. They may turn to another service provider or tell other people about their negative experiences.

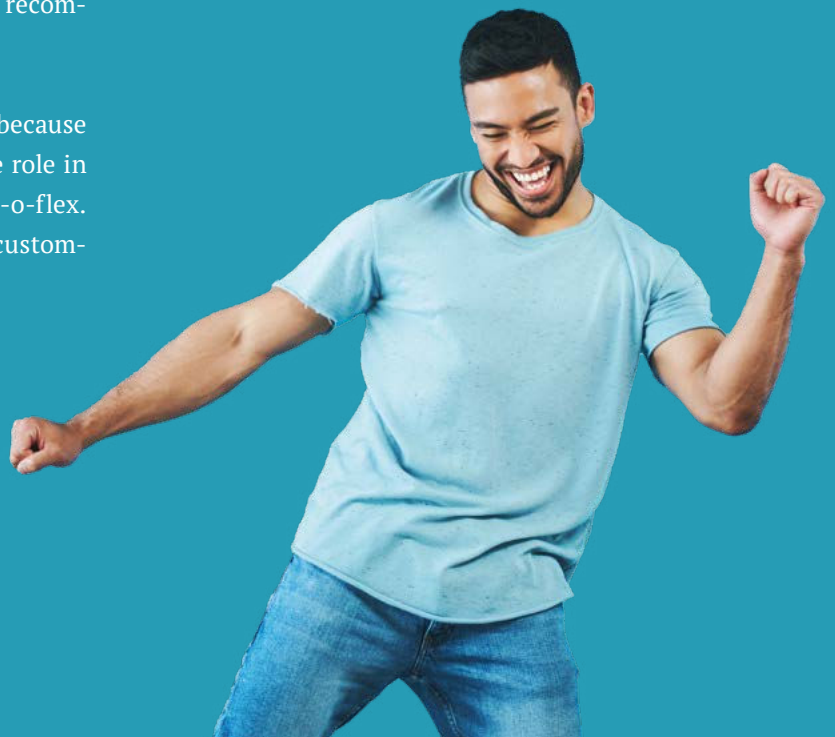
### ***This is how you increase the number of customer recommendations***

“But the reverse is also true,” continues Blankenfeldt. “A comprehensible, error-free invoice, a friendly, well-dressed driver, clean vehicles, and prompt, satisfactory responses to complaints – these are all experiences that contribute towards a positive overall impression.” Those customers, who have had a good experience at every point of contact, recommend trans-o-flex to others.

The Touchpoints project was launched this February because the many small customer experiences play a decisive role in shaping the big picture that a customer has of trans-o-flex. “We want to systematically ensure that trans-o-flex custom-

ers always have a positive experience at the many contact points that exist. The project is also intended to make all employees aware of the importance of the many different contact points. They should develop an eye for where they can contribute to a positive customer experience within their area of work.”

A team has been formed to ensure there is a company-wide focus on customer experiences and to facilitate continuous improvement, with each department appointing one employee as a customer expert. “These experts meet online every two weeks to discuss progress, strategies, and new approaches. So far, around 90 ideas have been collected to improve touchpoints, with a focus on cross-departmental processes.” The Customer Experts systematically put themselves in the customer’s shoes, examining processes in their area from the customer’s perspective. “They are also the point of contact for all colleagues who want to demonstrate how they can improve the customer experience in their area.” Last but not least, the Customer Experts in their teams should work specifically on improving the customer experiences directly or indirectly associated with the various processes.



### ***“Everyone can help make our customers happy!”***

According to Blankenfeldt, this may also include the whole operational issues that the customer might not directly witness but will feel the effects of. “A classic example of this is stalled goods: if a consignment remains in the transshipment centre and isn’t delivered, a negative customer experience is inevitable.” Another example is the loading and unloading of vehicles. “The way consignments are loaded plays a crucial role in whether they are damaged. Or if I load ambient pallets and forget to scan them with the trailer, the temperature documentation is then incomplete, provoking a negative customer experience, even if the goods were kept at the correct temperature the entire time.”

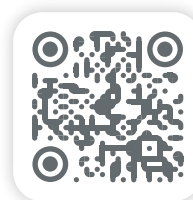
The challenge is to transform the improvement of the customer experience from a project task into a fundamental mindset on the part of all trans-o-flex employees. Blankenfeldt is convinced: “Only by continuously working on touchpoints across all departments will we be able to initiate a lasting process of improvement, setting us apart from other service providers. Because everyone contributes towards making our customers happy.” ■



## ***Do you want to help us improve?***

How long has it been since you were pleased or displeased with trans-o-flex? If you want to help us improve, we offer you two options:

- 1** Take part in our customer survey! Once a quarter, we contact different customers to systematically gather feedback on their experiences with our organisation across all areas. If you receive an invitation to take part in the online survey, please don’t ignore it – so we request that you don’t turn us down, but respond to it. The more of you who do this, the more differentiated the picture will be. The survey takes no more than 15 minutes to complete, providing us with valuable feedback on where you feel we excel or where you feel we need to improve.
- 2** If you have a current experience or topic that you would like to tell us about, you can simply scan the QR code shown here. A questionnaire will then open up, which you can fill in briefly and send off with one click. We will then get in touch with you.



*Simply use the camera of your smartphone to scan the QR code and describe your experience with trans-o-flex.*

***Thank you very much for your support!***

## Test in Nuremberg

# How well can voice assistants ease the working burden on delivery drivers?

“Alexa, play ‘Love Story’ by Taylor Swift!” Amazon’s voice service has brought voice control into mainstream society. Couldn’t a similar voice assistant also make the work of delivery drivers at trans-o-flex easier or more productive? trans-o-flex has put it to the test together with German Autolabs, a company specialising in voice assistance systems for the last mile.

At the Nuremberg branch, ten drivers were equipped with handheld scanners that could issue and receive voice instructions. Five of the drivers worked in German, while the other five received and responded to commands in Romanian. The voice assistance was tested in five applications (see graphic).

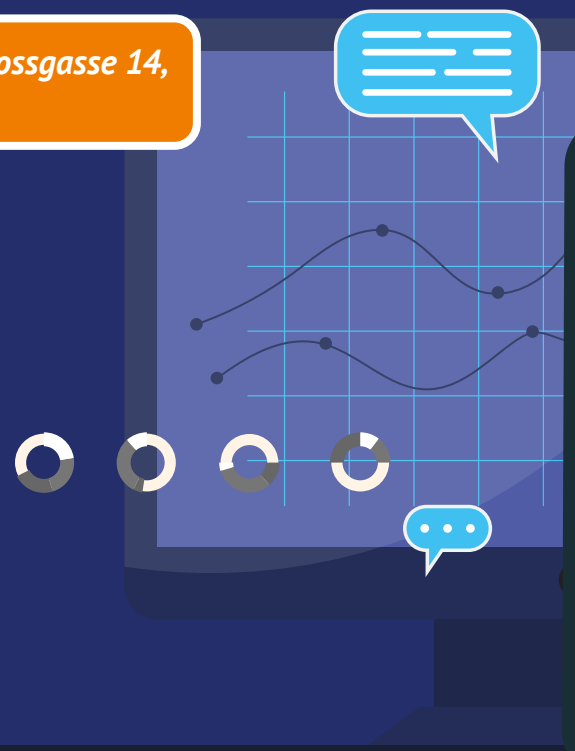
- 1 When the driver gets close to the next stop, he automatically receives information about his next delivery. Example:

*“Next stop: Bärenapotheke, Schlossgasse 14, 3 parcels, Ambient, heavy.”*

- 2 The driver received voice notifications about current pickup orders, which they had previously only seen and confirmed on the display of his handheld scanner. Example:

*“New pickup order. 1:00 p.m. until 3:00 p.m. Dr. Winkler’s Surgery. Hauptstraße 35. Weinheim. 2 parcels. Accept?”*

The driver can then accept or reject the order by entering Yes or No.





Before the ten drivers set off on their routes using the voice assistants, they received a briefing in which the operation and instructions were explained to them. Some of them were accompanied on the tours by the project manager, who wanted to gain a direct impression of how the voice assistance works and is received. At the start, after two weeks and at the end of the four-week test phase, all ten drivers were interviewed in detail.

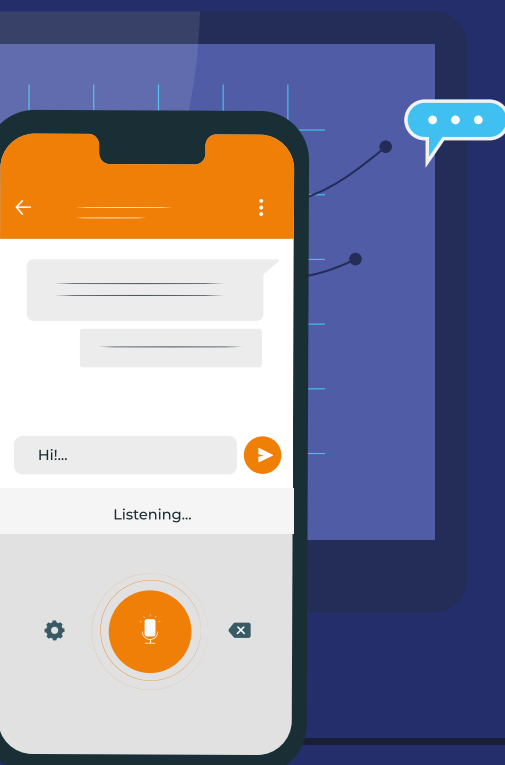
“The results revealed that the drivers found the instructions both helpful and convenient,” says Stefan Thömmes, Managing Director of trans-o-flex IT-Service GmbH. His employees organised and supervised the test on behalf of trans-o-flex. “While we didn’t measure productivity improvements during the test, we were able to see that the

voice assistant offers a great deal of potential, makes the job easier for drivers and facilitates communication. The benefits are likely to be even greater for new drivers than for the experienced ones we employed in the test.”

According to Thömmes, the test has led to the generation of ideas for further applications in addition to the facilitation of voice input for drivers. “We’d like to continue developing the voice assistance project.” Thömmes can even envision developing the system without an external software partner, given the very specific information required the trans-o-flex system. “This would allow us to quickly add new use cases or languages as required to relieve the drivers’ workload.”

- 3** The driver receives a reminder half an hour before an express consignment has to be delivered. Example:

*“Express service. 10:00 a.m. Apotheke am Dom.”*



- 4** There were warnings relating to the temperature control, for instance:

*“The temperature is rising, please check the cargo area!”*

- 5** The drivers were able to enter information into the system themselves to facilitate future deliveries, such as opening times or holiday periods. Example:

*“Hey, listen up, the Bärenapotheke has a lunch break between 1:00 p.m. and 2:00 p.m.”*

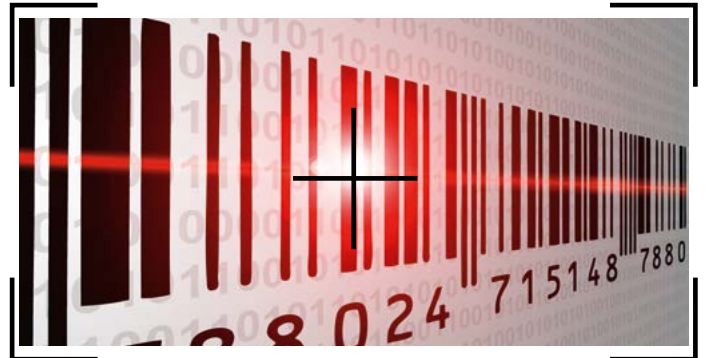
# ● REC

New cameras and artificial intelligence

## *How trans-o-flex taught its IT to see*

It happens time and again with almost every shipper: trans-o-flex receives consignments, but the associated data is not transmitted. “trans-o-flex must go to great lengths to still deliver such packages quickly and securely,” says Stefan Thömmes, Managing Director of trans-o-flex IT-Service GmbH. “Our latest project to improve data quality and to facilitate successful automatic routing comprises a new camera technology used on our sorters, along with Ai-generated programmes.”

Even before now, the cameras installed on trans-o-flex’s sorters have been able to automatically read the postcode on packages and direct them to the appropriate branch for delivery, even if the shipment data wasn’t transmitted. However, at the latest the stage of route loading involves manual rework, which costs time and delays the dispatch of the routes. “Above all, this jeopardises the punctual delivery of consignments with an earlier delivery date,” says Thömmes. But that is not everything by a long shot. For consignments where the data is transmitted on time, a scheduling pro-

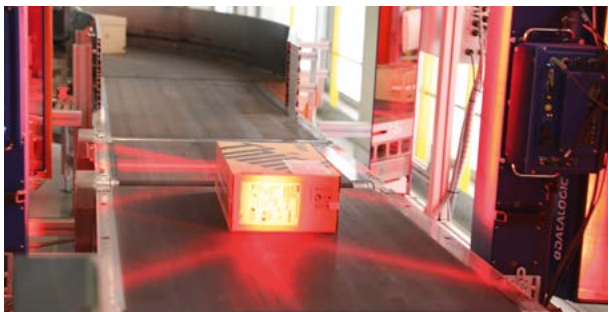


gramme is already running at night, which designs the optimum route for each driver based on the number of consignments in a region and the addresses to which the goods must be transported. However, if no data is available for a package, this package cannot be included in the scheduling. “Addresses with one and the same postcode sometimes belong to different routes. And in the worst case, the driver not only has to manually enter the



exact address of the consignment into his mobile computer, but also might need to take the package to another driver because it is not part of his route.”

“We have been looking into how we can automatically recognise and capture the exact address data of each package for some time,” says Thömmes, “But there was a problem in terms of the reliability with which cameras captured address data, the speed at which the data had to be captured on the sorter and the diversity of the address labels.” This is because not all trans-o-flex customers use the format provided by the company for the address label, some of them use their own formats. “That’s why the camera software has to be able to read a wide variety of labels, whereby the address information is sometimes in completely different places. It was only once investments were made in new cameras on all our package sorters and with the aid of deep learning that we were able to solve these challenges.”



## *The background to this*

Every image recognition model must first be trained to reliably recognise data. “We have trained the software in such a way that it can, on the one hand, recognise the typical components of an address label and read the text contained within it”, says Stefan Thömmes, Managing Director of trans-o-flex IT-Service GmbH. “On the other hand, the software identifies the specific service label, e.g. for a 10 a.m. delivery, to determine which service has been booked for that package.”

Based on these results, the trans-o-flex consignment control system generates the missing consignment data record. “Since we installed this system nationwide, we have been able to automatically retrieve the missing data for most consignments and assign them to a route,” thereby increasing transparency for trans-o-flex customers, as the higher data quality means that invoices now include all the relevant information for these consignments. “Operationally, the punctuality with which the tours can depart in the morning has increased, and thus also the adherence to express delivery deadlines.”



**Electric drive system**

## *Hydrogen-powered lorries tested in Berlin*

Anyone who transports consignments using a hydrogen-powered lorry and uses hydrogen produced from renewable sources is making a contribution towards climate protection as no emissions that are damaging to the climate are produced during the lorry's operation. The hydrogen is converted by a fuel cell into electric energy, water, and a small amount of heat. This feeds an electric motor that quietly drives the lorry. "This is why we wanted to see how practical the first lorries produced in series of this type are, and we used one vehicle for three weeks in Berlin," says Martin Mandos. He is Manager Operation Production Headquarters for the Eastern region of trans-o-flex and was in charge of the test project. His conclusion: "Overall, we were satisfied with the vehicle. However, we would have preferred to have a refrigerated vehicle, which, unfortunately, is not yet available."



This lorry was a Hyundai XCIENT with a permissible total weight of 27 tonnes. The vehicle was rented from the Cologne-based start-up Hylane, which specialises in hydrogen-powered lorries. “Supplied with around 31 kilos of hydrogen, the lorry could travel about 400 kilometres, which was more than sufficient for the collection routes on which it was used,” says Mandos. “And if we needed to refuel, we performed this in a maximum of 15 minutes.”

On the plus side, Mandos cited the drivers’ feedback that the lorry runs much more quietly than a diesel vehicle, that there are no vibrations from the engine and that driving without changing gear is very comfortable.

Mandos then referred to the still patchy network of refuelling stations, where green hydrogen is not available everywhere, and the high costs as negative factors. “In addition to the higher purchase or leasing costs, hydrogen-powered lorries are currently more than twice as expensive to operate than diesel-powered lorries.” Nevertheless, these vehicles could be a medium- to long-term alternative to conventional combustion engines. “The vehicles are exempt from tolls and vehicle tax and do, of course, support trans-o-flex’s sustainability goals, as they can significantly reduce our CO<sub>2</sub> emissions.” In collaboration with environmentally conscious customers and transport companies, Mandos can already envisage the use of hydrogen-powered lorries in the near future and is preparing a corresponding concept.





Three year long-term test

## When the sun cools the goods: Photovoltaics power cooling unit



By means of a long-term test over a period of three years, trans-o-flex is exploring the increasing possibilities of electric temperature control in its lorry fleet. “While the performance and efficiency of electric drives are not yet sufficient for our requirements in terms of the tour length and weight to be transported, we have discovered some pleasing innovations in the field of electric refrigeration units,” says Michael Löckener, Managing Director of Operations at trans-o-flex. “Due to the fact we also wish to become leaders in this area of development, we have been using an IVECO prototype since the beginning of July.” The vehicle is operated by ThermoMed for both scheduled services and deliveries. It’s special feature: thanks to an intelligent recharging system, the electric refrigeration unit from the Spanish manufacturer Courage Technologies achieves a running time of more than nine hours. “This is most promis-

ing and the initial test results confirm its performance across the board,” continues Löckener. “We will now test how the vehicle performs in the colder months.”

The decisive factor in the area of electric cooling is the performance of the battery, which supplies the energy for the cooling unit. In conventional refrigerated vehicles, the drive motor also supplies the energy for the cooling unit via the alternator. “In these cases, the engine always need to be running to supply the unit with energy, even when the vehicle is parked, and the driver has, for instance, just left the vehicle to deliver a consignment.” This noise from stationary vehicles and the fuel consumption of a running engine are increasingly becoming unacceptable – especially on hospital grounds. “Our drivers are repeated-





ly asked to switch off the engine, even though it has to be running to protect the loaded pharmaceuticals. And sometimes drivers receive a torrent of abuse because of it.”

If the cooling unit is operated electrically, it not only runs more quietly, but also functions when the engine is not running. “In this case, the energy comes from a buffer battery,” explains Löckener. “The challenge involves making the battery large enough that the vehicle’s operating time does not have to be reduced, but at the same time it should not be too large.” This is because the larger the battery is, the heavier and more expensive it is at the same time.

The prototype test was therefore prepared over a period of several months. Before the vehicle, which was first presented to customers at the Pharmatag 2023, could be used, the battery life had to be more than doubled to ensure a stable cargo area temperature of 2–8 degrees Celsius throughout the entire journey. The solution they arrived at: On the one hand, solar modules were installed on the roof of the box body. When the sun is shining, the modules automatically charge the buffer battery. On the other, there is a cable connection between the vehicle battery and a charger for the buffer battery. This means that the buffer battery can be recharged without the need of a connection to the engine.

“This innovation may seem minor, but it has key advantages,” explains Löckener. This is because the electric cooling units previously used by trans-o-flex were also dependent on the engine running to recharge the buffer battery. “There was also a generator that was driven by an auxiliary drive from the alternator. If the engine stalls or the belt of the auxiliary drive snaps, the power supply is interrupted.”

The new solution not only reduces the weight of the system (since the additional generator is superfluous), but also its maintenance requirements. This is because the usual auxiliary drive is now redundant, thus eliminating the risk of the drive belt breaking. “We have therefore eliminated another source of error.” And even if the engine stalls and can no longer supply energy, the energy from the buffer storage system plus the vehicle battery is now available for the cooling of the cargo area. “This provides us with much more time to send a replacement vehicle and transfer the load without any temperature deviation.” The maximum buffer time with the electric cooling units used to date is 1.5 hours. Using Courage’s new system, it would be four hours.

*trans-o-flex ThermoMed is subjecting a prototype with electric temperature control to a three-year long-term test. The vehicle in question is an Iveco Daily with a permissible total weight of 3.5 tonnes and a box body from STS Kühlfahrzeuge. The test mainly focuses on the intelligent power supply of a new cooling unit from Courage using two buffer batteries and solar panels.*



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