

Made in Cologne.



CONTENTS

MADE IN COLOGNE



At its Cologne site, NKT produces cables for the energy transition.

16

04 AI AT HOME IN COLOGNE

Artificial intelligence is driving a new economic revolution. Cologne-based companies and start-ups – from retailers to insurance companies – are already showing what is possible. We also talk to Jörg Bienert, CEO of the German AI Association, about why Cologne could become the “spider in the web” of the Rhineland AI cluster.

10 HOTSPOT FOR ARTIFICIAL INTELLIGENCE

Highly innovative research centres, initiatives and companies in the field of AI are located in the greater Cologne area. The location benefits from both established facilities and new companies moving into the area.

12 A CITY IN TRANSITION

Cologne property projects are notable for their sustainability and use of smart technologies. Art-Invest Managing Director **Arne Hilbert** talks about how PropTechs can change the industry. Meanwhile, mixed-use concepts are conquering Cologne's city centre.

16 DRIVERS OF TRANSFORMATION

In an interview, **Anders Jensen, Chief Technology Officer of cable manufacturer NKT**, explains why his company is so important for the energy transition and is investing around 100 million euros in additional production capacities at its Cologne site.



Optimised processes: Foodforecast is revolutionising ordering systems for bakeries.

18 START-UPS MADE IN COLOGNE

At **Foodforecast**, AI buys in the bread and revolutionises bakery ordering processes. **The Oater** reduces packaging waste and CO₂ emissions with its oat drink machines. And the start-up **Vytal**, with its free reusable system, has been able to replace 9.5 million items of disposable packaging to date.

Mayor Henriette Reker
on Cologne as an
international trade fair
and conference city.



20 A WELL-CONNECTED METROPOLIS

Multi-layered infrastructure encompassing land, sea and air – Cologne's convenient location at a glance. We get insights from **Andree Haack**, Councilor for Urban Development, Economy, Digitalisation and Regional Affairs of the City of Cologne.

22 SIGNPOSTS TO THE FUTURE

Interview with **Dr Melanie von der Wiesche**, who manages the West sites of the German Aerospace Center (DLR), on the importance of AI and AI security for the development of society.

24 WHERE WORLD MARKETS MEET

The **Koelnmesse** exhibition site has been open for business for 100 years. With indoor and outdoor space amounting to around 400,000 square metres, the exhibition centre is one of the largest trading venues in the world. We talk to Mayoress **Henriette Reker**

about the new Confex conference facility, and trade fair boss Gerald Böse about future plans for the exhibition centre.

28 HIDDEN CHAMPIONS

For 24 years now, **Trusted Shops** has been shaping e-commerce with its seal of approval. In an interview, founder Jean-Marc Noël talks about the motivation, challenges and new goals of the Cologne-based company.

With expansion of the company headquarters and new solutions for barrier-free living, the **Liftstar Group** is setting a course for growth.



30 BUSINESS LUNCH

Michelin-starred chef **Vincent Mossonnier** reveals where to find the best business lunch. His tip: "Ristorante Alfredo" on Tunisstrasse near the opera.



22



IMPRINT

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AI AT HOME IN COLOGNE

ARTIFICIAL INTELLIGENCE is much more than just hype; it is the next stage of the economic revolution. The promises for a better future are often still vague, but many Cologne-based companies and start-ups – from retailers to insurance companies – are already demonstrating what is possible.



REWE customers check in at the entrance using the Pick&Go app. Payment takes place when they leave the store.

involves hundreds of cameras on the ceiling and hidden sensors on the shelves, which allow the artificial intelligence to create a unique 3D model of the store and the customers – while they shop. This means that the system knows at all times where each of the 13,000 products is located, who is picking them up, whether customers are putting them down again somewhere else, and what ultimately ends up in the shopping bag. When customers who have checked in at the entrance via the Pick&Go app leave the store with the goods, the AI automatically settles the bill using a stored payment method. Queuing at the till? Scanning your purchases at the self-service checkout? All this is a thing of the past for users of Pick&Go.

The REWE supermarket in Cologne is an example of how artificial intelligence is breaking through into real life – into our daily routine, our weekly shop, and within our own four walls. This makes REWE – one of the leading companies in German food retailing with 3,700 stores – a pioneer in the industry. However the road here was a long one. For years, the Cologne-based company has been working on AI solutions that record, calculate and anticipate delivery routes, stock levels and online purchases, all of which happens in the background. In the six Pick&Go test stores across Germany, which are located in Berlin, Munich and Düsseldorf as well as Cologne, the AI becomes visible. Thanks to REWE's collaboration with the Israeli start-up Trigo Vision, these six stores are now packed with technology.

Hundreds of cameras, hidden sensors: REWE goes high-tech

Hundreds of cameras hang from the ceiling, aligned with millimetre precision. They scan the schematic representation of the customers and assign consecutive numbers to them. “The AI doesn't scan faces, and we don't create shopping profiles,” emphasises Jana Sanktjohanser, who is in charge of the project at REWE. “In our computer vision system, everything is anonymous, and if you visit the shop again,

“The AI doesn't scan faces, and we don't create shopping profiles either.”



Innovative purchasing: Jana Sanktjohanser heads the AI project at REWE.

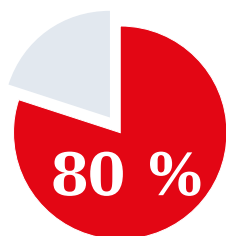
The future of shopping is not in Silicon Valley, but on a busy street in Cologne's city centre. Or, to be more precise, in a REWE supermarket. On an ordinary weekday, people push their way between the rows of shelves, and while some people stand at the checkout with full shopping baskets, others put the goods straight into their bags and are on their way.

What looks like brazen theft is actually intentional – and indeed a revolution. The system is called Pick&Go, and the concept behind it



you won't be remembered." Thanks to a great deal of training, the algorithms effortlessly manage to follow people through the store, even when they approach other customers. Over the past few months, the system has learnt to distinguish between cans or bottles that look almost identical and to sort them correctly. In addition to the cameras, the AI works with a sensor base in the shelves, and it thus registers, precisely to the gramme, if a customer picks something up and what it is.

It's not just REWE that has recognised the potential of AI, but the majority of Cologne's business community. Here, 16 out of 20 big companies are already working with AI. One in ten of the 700 or so start-ups based in Cologne has an AI focus, and even Germany's most valuable AI start-up, DeepL, is based in the city centre. And experts such as Jörg Bienert, Chairman of the



80% of large companies in Cologne are already using AI.

Board of the German AI Association, talk about the Cologne region as a central AI location in Germany and Europe. The special thing about many of Cologne's examples is that they are not only experimenting with AI, but also have useful solutions that can enrich the everyday lives of people and companies. This also includes the start-up Xaver.

Xaver wants to use AI to revolutionise retirement provision

Founded in 2023 by Max Bachem and Ole Breulmann, the start-up has raised more than five million euros this year. As a result, it has recorded one of the largest German pre-seed financing rounds to date in 2024 and has been able to convince prominent figures such as ex-Commerzbank CEO Martin Blessing and football star Mario Götze. They all believe in the founders' vision of using AI to combat poverty among the elderly in Europe.

To this end, Xaver has developed software for banks and insurance companies that provides private customers with an AI-based assessment and recommendation for improving their personal pension situation. They answer questions, and the AI calculates which products are suitable for them to close a potential pension gap. "However, because many customers currently still want to validate such important decisions with a human being, they can switch to a personal consultation at any time," says founder Bachem. "Our software ensures a more efficient customer experience – digitally and personally." The AI, which has previously advised the customer and already knows them, acts as a co-pilot here, transcribing the personal consultation, for example. According to Xaver, sales staff can save up to 50 per cent of their time with the help of the software.



Weighed fruit and vegetables are automatically allocated to customers' Pick&Go purchases.



COLOGNE-BASED AI START-UPS BRING ADDED VALUE FOR EVERY COMPANY

Pixit:

Shake it like a polaroid picture
For presentations, online presence or pitches, companies are always going to need professional photos of their employees. These are frequently missing, though, because colleagues are new or the firm's offices are spread across the globe. Pixit has built an AI-based solution for this, which turns holiday photos into professional and uniform company photos in no time at all.

Evy Solutions:

Documents cleverly sorted

Emails, invoices, order confirmations: Anyone who has a company mailbox knows that it can quickly become a mess. The AI from the start-up Evy Solutions, founded in 2017, brings order to the chaos, as it can easily read, analyse and sort documents such as PDFs and emails.

DeepSkill: AI-supported

personalised soft skills training
Reconciling humanity with AI: This is the goal of Miriam Mertens, the founder of DeepSkill. Her start-up has developed a learning platform that uses algorithms to create customised learning paths. This trains companies, their employees and managers in essential "deep skills". These include skills such as leadership, emotional intelligence, teamwork and conflict management. The Cologne-based start-up recently received 1.5 million euros in growth capital. In addition, 10,000 euros were provided via the Kölner Rahmen [] funding programme run by KölnBusiness Wirtschaftsförderung.



AI in everyday life: No shopping trolleys or tedious queuing at the checkout – the AI in the REWE supermarket in Cologne is becoming a role model for the industry.

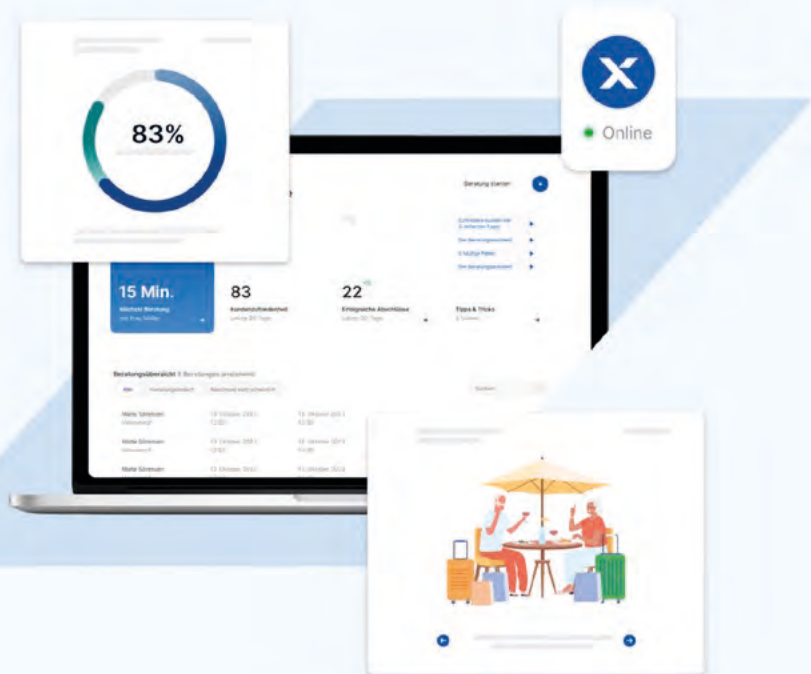
The algorithms are fed millions of pieces of data, sales manuals, previous customer conversations and many important regulations in financial sales that the AI must observe. "Our platform orchestrates a variety of different AI models in order to utilise the best one for each task," says Bachem. "The advice and recommendations on the individual financial situation are objective and data-based, and the quality of advice is already very high. The models are constantly learning, and we are only at the start, in terms of the opportunities offered by AI."

For this innovative business idea, Xaver was named the regional winner in Cologne in the nationwide pitch competition "Startup Champs" in the spring. And in the future? In the medium term, the start-up wants to offer its own financial products for financial institutions and to continue to grow in Cologne. "Setting up Xaver in Cologne was one of our best decisions," says Bachem, who cites the availability of top talent, particularly in the fields of AI and programming, as one of the reasons for this.

"For us as an AI fintech start-up, Cologne is the perfect location."



Max Bachem, founder of Xaver, wants to use AI to combat poverty in old age.



Innovative business idea: The Cologne-based start-up Xavier has developed software that uses AI to inform private customers about potential pension gaps.

In addition, as an insurance hub, Cologne brings together many of the start-up's potential customers in one place, and Frankfurt as a banking centre is also not far away. "For us as an AI fintech start-up, Cologne is the perfect location," says Bachem.

Contract cancellation in default? Gothaer AI is the first to know

Just how far AI has already penetrated the insurance industry is clear from the example of Gothaer. The Cologne-based insurance group uses an in-house ChatGPT, for example, for its independent sales representatives working under Marketing Manager Thomas Heindl, enabling them to generate LinkedIn posts for their individual marketing in just a few seconds. "Ideally, this can save 50 per cent or more of the time you would otherwise need for copywriting," says Heindl.

The Data Analytics department, meanwhile, calculates the probability

"With artificial intelligence, we can now take many more factors into account more quickly"



Thomas Heindl from Gothaer relies on AI-based tools for customised marketing.

ty of customers or entire households cancelling a contract. Simple factors in this calculation are, for example, that only one contract is in place or that other contracts have already been cancelled. "Any layperson can understand that the probability of cancellation is potentially higher here," says Heindl. "With artificial intelligence, we can now take many more factors into account more quickly, including the relocation of brokers, for example."

AI analyses emails for greater customer satisfaction

In the future, Gothaer also aims to carry out sentiment analyses, for example to decode the tonality of e-mails. The goal here is to be able to measure whether someone is dissatisfied. In the past, advisors were able to sense dissatisfaction, but these days the digitalisation of the customer relationship is making this more and more difficult. "Recognising how our customers are doing will be an important task for AI," says Heindl.

Internally, some AI calculations are still causing uncertainty, Thomas Heindl admits, but he is certain that this scepticism will subside over time. "It's like when the sat nav was invented," he says. "Everyone still took the route they thought was best. Hardly anyone does that anymore – simply because the trust is there."

“The Cologne region is a key location for AI in Germany and Europe”

Jörg Bienert is Chairman of the Board at the German AI Association. In this interview, he explains why Cologne could become the “spider in the web” of the Rhineland’s AI cluster.

Mr Bienert, when we talk about artificial intelligence, we often talk about companies from abroad. Is Germany lagging behind?

I wouldn't say that. Germany is very far ahead in research when it comes to artificial intelligence. We have excellent universities and city clusters in Germany that can easily keep up with the rest of Europe and the world in this area.

The race for artificial intelligence will also be decided regionally. What role does Cologne play here?

Cologne is already on the right track. Unlike Munich or Berlin, Cologne does not traditionally have a strong focus on computer science, but work is ongoing in this area. At the same time, with DeepL, Cologne is home to the most valuable AI company in Germany. In general, we at the German AI Association are seeing that Cologne offers excellent conditions for founding a start-up in the field of artificial intelligence. The surrounding universities bring talent, there is enough office space, and there is also a very good level of funding. In the medium term, Cologne could become the “spider in the web”, establishing itself as a city in the Rhineland AI cluster, attracting young talent from all over the world.

The Rhineland AI Cluster – what does that encompass for you?

In NRW and the Cologne area, there are a wide range of activities that focus on the topic of AI. In Sankt Augustin, they are currently working on OpenGPTX, an open source language model that will present results this year. Sankt Augustin is also home to WestAI, an AI service centre under the direction of the University of Bonn. In Jülich, we will soon have the largest supercomputer in Europe and one of the largest in the world, which is ideal for AI applications. And in Hürth, the AI Village is an important point of contact for young companies and SMEs. Added to this is the amazing research going on in the region: RWTH Aachen University, for example, is at the forefront in this field. Furthermore, with the Lamarr Institute, we have a centre for cutting-edge research in the field of artificial intelligence and machine learning. The region around Cologne is truly a key location for AI in Germany and Europe.



COLOGNE: A REGION OF AI

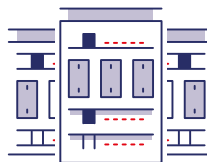
Cologne is home to a number of highly innovative AI research centres, initiatives and companies. The location benefits from the region's established facilities – but also from new companies moving into the area.

Forschungszentrum Jülich

Founded: 1956

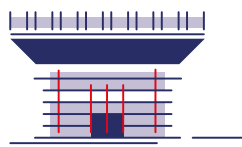
Employees: approx. 7,000

This research centre supports German and European AI projects at several levels, so researchers at the centre are also involved in the development of OpenGPT-X. Above all, however, the centre has a number of supercomputers, whose monumental computing power makes the use of complex AI models possible in the first place. Together with other members of the Helmholtz Association, the centre is also working on basic AI models, for example for analysing climate data.



BEDBURG + BERGHEIM

JÜLICH



AACHEN

RWTH

Founded: 1870

Students: approx. 10,000

AI now plays a role in almost all areas at Germany's most important technical university. To consolidate and coordinate these activities, RWTH has set up its own AI Centre, which links the university's researchers with each other and with external project partners – from academia and industry.

Microsoft Hyperscaler

Founded: 2024

Investment volume: € 3.2 billion

The US company is building a hyperscaler data centre in the Rhine-Erft district. Data-driven companies such as Microsoft need these giant server farms for their daily operations and the development of new applications. The Rhine-Erft district is an ideal location, as the most important European data lines intersect nearby. The investment package also includes a major AI training initiative for people in the region.

AI Village

Founded: 2023

Surface area: 120,000 square metres

The AI Village is a joint project by the Rheinische Fachhochschule, Fraunhofer IAIS, KI-Verband NRW and the city of Hürth, with funding from the Federal Ministry for Economic Affairs and Climate Action. The aim of the AI Village is to provide a place where start-ups can develop ideas, citizens can get further training and companies can find support for their project work. The campus is also intended to help the city, which has traditionally relied on income from mining, to master the structural change in the Rhineland coalfield region.



Rheinische Hochschule

Founded: 1971
Students: 6,000

The state-recognised university of applied sciences has made AI a primary focus, offering its own AI laboratory and corresponding elective modules for students. The university is also one of the project partners of the AI Village in Hürth. There, the RH is responsible for academic training and further education, which will form an important part of the project.

DeepL

Founded: 2009
Employees: approx. 900

With a billion-euro valuation, the company is considered the most valuable AI start-up in Germany (as at: June 2024). It is known for its online translation service, which now encompasses over 20 languages. DeepL uses specially trained neural networks. According to the company, the underlying architecture has been specially customised, but they're not giving away any details.

DLR

German Aerospace Centre

Founded: 1907
Employees: approx. 4,000
at its West site

The DLR has set up an Institute for AI Safety & Security. The aim here is to develop transparent and, above all, robust AI systems, and particularly to ensure that AI used in critical infrastructure is protected against threats such as cyberattacks. Human safety, for example in the use of AI in traffic control and autonomous driving, also plays a role.

COLOGNE

HÜRTH

ST AUGUSTIN

Lamarr Institute

Founded: 2022
Employees: approx. 100

The institute is one of five AI competence centres that the federal government is funding as part of its AI strategy. One of its focus areas is work on resource-efficient AI models, primarily to reduce energy consumption. As of this year, the Lamarr Institute is also working with partners on AI-supported pharmaceutical development.

Fraunhofer FIT

Fraunhofer Institute for Applied Information Technology

Founded: 1968
Employees: approx. 400

Fraunhofer FIT shares its premises with Fraunhofer IAIS and the Lamarr Institute. In the "Generative AI Lab" the researchers develop their own prototypes, especially of large language models, which are AI systems trained with large amounts of text in order to solve tasks. The results of the lab will be made available to the public as an open source solution.

Fraunhofer IAIS

Fraunhofer Institute for Intelligent Analysis and Information Systems

Founded: 2006
Employees: approx. 380

Like the neighbouring FIT, Fraunhofer IAIS deals with AI systems. Among other things, it is playing a leading role in the development of OpenGPT-X. The project is closely linked to the European cloud project Gaia-X, which aims to provide a trustworthy data infrastructure for Europe.

CITY IN TRANSITION

Modern property projects are characterised by sustainability and the use of smart technologies. Three Cologne developments point the way to **living and working in the future**.

FRIEDRICH UND KARL: BLAZING A TRAIL IN TIMBER HYBRID CONSTRUCTION

The Bauwens Group is developing a climate-friendly neighbourhood in Cologne-Niehl: The “Friedrich und Karl” project, which will mark the new entrance to the city in the north of Cologne, is being built in a prominent location on Friedrich-Karl-Strasse. The use of a timber hybrid construction method enables storage of CO₂, while geo-

thermal energy and photovoltaics on all roofs provide the necessary energy from renewable sources. Thanks to efficient heat pumps, the buildings can be heated and cooled almost self-sufficiently, and the waste heat from the server rooms is also utilised. A large proportion of the rainwater is fed back into the natural water cycle via infiltration trenches, underground storage tanks for rainwater infiltration and green roofs. In terms of mobility, too, the neighbourhood is pursuing a sustainable approach: Over 1,000 bicycle parking spaces enable an environmentally friendly journey.

Gross floor area: 66,300 square metres



KITELOFT COLOGNE: CLIMATE-NEUTRAL WITH AN INNOVATIVE OFFICE CONCEPT

Sustainability and high-tech went hand in hand right from the planning stage of the Landmarken AG office project. A simulation, for example, revealed how much energy the building would consume depending on the weather conditions so that the KiteLoft could be planned in a particularly energy-efficient way from the outset. Thanks to the interplay of geothermal energy, green electricity and state-of-the-art measurement and control components, the building's operation is now climate-neutral. KiteLoft also brings an innovative office concept to Cologne: “Spirit Offices”. In addition to climate protection, this standard applies to a digital building that thinks for itself and promotes health through exercise facilities and healthy materials. Calorie counters in the stairwells motivate people to exercise, while the large roof terrace with a view of the cathedral and a café on the ground floor promote a sense of community. KiteLoft is the final component of Landmarken AG's “kite” development at Butzweilerhof.

Gross floor area: 5,500 square metres
Available rental space: from 500 square metres



I/D COLOGNE: FROM AN INDUSTRIAL SITE TO A SUSTAINABLE NEIGHBOURHOOD

Highly efficient lighting technology, thousands of square metres of green space, and its own car-sharing fleet: Once a freight yard, I/D Cologne, developed by Art-Invest Real Estate and OSMAB Holding AG in Mülheim's Schanzenviertel district, is a milestone in modern neighbourhood development. In addition to an e-charging infrastructure and bicycle parking spaces, the sustainability concept includes a 5,000-square-metre habitat for the reptile of the year 2021 – the sand lizard. In addition, the neighbourhood's car park has one of the largest green façades in Germany. Around 5,000 creepers and climbing plants, some of them evergreen, adorn the 2,000-square-metre surface. Building operation is controlled and monitored via an AI-based cloud platform, which saves energy and conserves resources in the long term.

Gross floor area: 160,000 square metres



“PropTechs are driving change in the industry”

Arne Hilbert is Managing Director of project developer Art-Invest Real Estate Management GmbH. At its new I/D Cologne development, the company is making use of a solution from aedifion.

Mr Hilbert, can PropTechs – young, technology-driven companies – change the property industry?

I am firmly convinced they can. After all, at the end of the day they increase added value. That's why, at Art-Invest Real Estate Management, we have already set up three funds via our venture Bitstone Capital to invest in corresponding start-ups. There are some young technology companies that are actively driving change in the industry.

At I/D Cologne in Mülheim's Schanzenviertel district, you opted for a solution from Cologne-based start-up aedifion.

Why was that?

aedifion supports us at the interface between building automation and facility management in the continuous monitoring and optimisation of building operations. Where inert systems such as concrete core activation and dynamic ventilation systems are combined, aedifion uses artificial intelligence to ensure optimally coordinated operation. This not only saves energy costs of around 31,500 euros per year, but also around 300 megawatt hours of energy and around 100 tonnes of CO₂.



What major PropTech innovation do you think could change the property industry for good?

The leverage that PropTechs have is huge. The property sector is still very traditional, and there are lots of useful starting points for innovative solutions along our value chain. We see great potential, particularly in the increasing maturity of artificial intelligence applications, for optimising our processes and those of our service providers and our project participants. A good example of this is our investment in the start-up alcemy, which uses artificial intelligence as early as the concrete production process to increase production quality and at the same time significantly reduce the carbon footprint of the building material. If PropTechs ultimately contribute to a valuable, sustainable property product, they can really support the industry.

CITY OF THE FUTURE

More than just shopping: **Mixed-use concepts** are taking over central Cologne. Here are three examples.



MANTELHAUS: A 1950S ICON REINVENTS ITSELF

The Mantelhaus Goertz on Hohe Strasse is undergoing extensive remodelling. The partially listed building from the 1950s with its characteristic façade and staircase is being converted into a modern office and commercial building. In the course of the refurbishment, it will gain an extra storey and a half, creating space for a large roof terrace of 300 square metres and a staggered storey that is ideal for a bar or café. The forward-looking project by property developer ehret+klein is scheduled for completion in 2025.



Dr Manfred Janssen,
Managing Director of KölnBusiness
Wirtschaftsförderung

“OUR SHOPPING STREETS WILL CHANGE.”

“Schildergasse had almost 22 million visitors in 2023, and Hohe Strasse around 16 million. This puts them among the ten most visited shopping streets in Germany. At the same time, however, we also see that people's preferences are changing, and thus so are our shopping streets. Retail is still at the core of a city centre, but innovative concepts in dining, services, leisure and culture are creating new attractions, and this contributes to a modern mixed utilisation that makes Cologne livelier and more attractive.”

FREE TIME IN THE CITY CENTRE: BOULDERING HALL MEETS RETAIL

The investor Aachener Grundvermögen has converted the former Kämpgen-Haus at Schildergasse 70 into a leisure paradise: Cologne's first city-centre bouldering hall “Element Boulders” is now spread over three floors. The concept has already been successfully realised in cities such as Munich, Essen and Kassel. The ground floor is still home to traditional retail, currently the Zalando outlet.

COMMERCIAL BUILDING ON HEUMARKT: SUSTAINABLE IN PLATINUM

At Heumarkt 55, on the corner of Gürzenichstrasse, an office and commercial building is being built for the capital management company Hansainvest. The building, designed by Thomas Kröger Architekten, boasts 6,000 square metres of rental space. Building construction is scheduled to begin in 2025, with completion planned for 2027. Sustainability is a top priority, with one such feature being charging stations for e-bikes and greenery.



Mr Jensen, NKT is originally a Danish company but has had a site in Cologne for many years. It's from here that you're setting the course for the German energy transition.

Exactly. For the huge project that is the energy transition, we manufacture the cables that connect electricity production and consumption here on site.

What does that mean exactly?

NKT produces low-, medium- and high-voltage cables. The latter are particularly important because they are used in the major electricity corridors, such as the SuedLink high-voltage line. In this way, we connect Germany's north, where the electricity is produced – for example in offshore wind farms – with the south, where a lot of electricity is consumed, for example by industry. To put it plainly, the energy transition cannot work without these cables.

And you manufacture all these cables in Cologne?

Some of them. There are differences between the cables for land and sea. The submarine cables that connect offshore wind farms to the mainland naturally have to be designed and manufactured differently. Here in Cologne, we mainly produce the land cables that are then installed in projects such as SuedLink. This involves more than 700 kilometres of cable, which can transmit an output of two gigawatts. Not many companies are in a position to offer something like this, and we have often been at the forefront of innovation, especially when it comes to high-voltage cables. We were the first company to produce 525-kilovolt cables.

NKT has been in Cologne for more than 20 years. Why did you come here in the first place?



“Without our cables, there is no energy transition”

Anders Jensen is Chief Technology Officer of cable manufacturer NKT.

In this interview, he talks about the importance of the company for the energy transition and the 100-million-euro investment at the Cologne site.

“Cologne is centrally located in Europe, so we can easily reach our European sales markets from here.”

In 1999, NKT took over the cable manufacturer Felten & Guillaume (F&G) from Cologne-Mülheim. This was a milestone for us, as F&G was a company with valuable cable and wire harness manufacturing technology that we were keen to add to our portfolio. In addition to this, Cologne is wonderfully central in Europe, so we can easily reach our European sales markets from here. The motorway connections are excellent, and the airport is not far away. Plus, the Rhine flows directly alongside the Chempark and is important to us as a waterway.

NKT was recently awarded the contract for two onshore high-voltage cable projects by the German transmission system operator Amprion. This increases the order backlog in the high-voltage segment to around twelve billion euros. What does this mean for the location?

We will invest around 100 million euros in additional production capacity at the existing plant in Cologne, which should go into operation from 2027.

For that you need skilled labour. Is the search for talent easier or more difficult in Cologne than elsewhere?

The location offers a number of advantages. There are many good universities in the region, the University of Cologne, the University of Applied Sciences and, of course,

NKT CABLES FOR CONNECTING RENEWABLE ENERGIES

NKT is the main supplier for two electricity corridors that are indispensable for the energy transition in Germany.

The **SuedOstLink** is the world's first major commercial interconnector to secure the electricity supply in the south-east of Germany. The connection comprises a total of

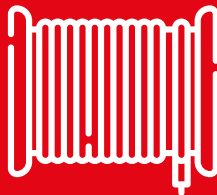
1,100 kilometres of cable, and NKT has been awarded the contract for three of five sections.

At **1,340 kilometres**, SuedLink will be the longest underground electricity connection in the world. NKT was awarded the contract for the longer of the two power cable sections. The western section has a total length of 750 kilometres.

LENGTH OF THE CABLE ROUTE

SuedOstLink:
around 275 kilometres

SuedLink:
around 750 kilometres



the RWTH in Aachen, so we maintain our presence there and actively promote our company. Cologne is an attractive city. What's more, the Bergisches Land region is not far away, which is interesting for potential employees – including those from the surrounding area.

You yourself have lived in Cologne for 15 years. To what extent do you feel at home here?

I feel very comfortable here. Coming from the Nordics, I had to adjust a little to the Rhinelanders, but it was worth it. Cologne has great cultural offerings and beautiful nature just outside the city. As a Dane, I miss the North and Baltic Seas, but there are mountains here instead – at least by Danish standards. ■

THE INTERVIEWEE: ANDERS JENSEN

is Executive Vice President and CTO of NKT. He studied electrical engineering and management.



AI BRINGS HOME THE BREAD

One of the biggest challenges for bakeries is the daily decision on how many rolls, loaves and cakes to order. The Cologne-based **start-up Foodforecast** has developed artificial intelligence that makes the decision for them.



Intelligent planning: the Cologne-based start-up Foodforecast is revolutionising bakeries' ordering processes with AI-controlled software that helps avoid returns.

When the best-selling French baguette is sold out at the local bakery, it's not just annoying for customers. The approximately 35,000 bakery shops across Germany also suffer lost sales when items sell out too early, but they don't want to keep too many baguettes in stock either. The Cologne-based start-up Foodforecast promises to help solve the problem with AI.

Foodforecast has already equipped 1,500 locations with its

software. In addition to bakery chains such as Merzenich, Backhus and Göing, the system is also increasingly being used in the retail and catering sectors, including in over 400 Aldi Nord bakeries and at the restaurant and delivery service chain Beets & Roots.

Training AI is like maths lessons

The AI is connected to the registers and inventory management system

in the shops. The order and sales data are combined with additional sales factors such as the current weather forecast, school holidays, public holidays and other events such as impending rail strikes, and the resulting order quantities are stored in the merchandise management system.

Justus Lauten, CEO of Foodforecast, is training the AI to continuously improve the system: "It's like maths lessons. First some exercises are solved, then new ones are added that the teacher has not explained in detail beforehand."

Convincingly accurate forecasting

Even initially sceptical employees were won over by the start-up: "We were able to create trust because the AI delivered convincing results right from the start, with forecast accuracy of 95 per cent. This cuts returns by an average of 30 per cent."

With these successes, Foodforecast is optimistic about the future and wants to continue to grow. Just recently, the start-up acquired its first foreign customer, and it is confident about its position. "Cologne is the most exciting city in the whole of North Rhine-Westphalia, and that makes us interesting for potential new employees." ■



Less packaging waste: The team from The Oater aims to deliver 50 of its oat milk machines by the end of the year.

THE OATER: OAT MILK AT THE TOUCH OF A BUTTON

Cologne-based **start-up The Oater** is revolutionising the drinks industry with an innovative oat drink machine. Caterers can use it to produce fresh oat milk without packaging waste and in barista quality. The machines are offered on a lease, and the ingredients are supplied via a subscription model. The Oater plans to deliver 50 machines by the end of the year – and its waiting list is long. According to the company's own figures, The Oater produces 41 per cent less CO₂ emissions per litre than conventional alternatives and plans to save around 500 million composite cartons and one billion kilograms of CO₂ by 2030. In summer 2024, The Oater completed a seven-figure pre-seed financing round and received 10,000 euros in funding from KölnBusiness.

41

per cent less CO₂ emissions are created per litre by The Oater compared to conventional alternatives.

“More efficient than the German deposit system”

More than 350,000 tonnes of waste are produced in Germany every year from disposable tableware. The start-up Vytal is fighting this with its free reusable system – and is growing successfully. Founding member and Managing Director **Dr Tim Breker** explains the start-up's success.

How does your system work and how much disposable packaging has been saved so far?

More and more people want reusable solutions for snacks, lunches and drinks, which is precisely where Vytal comes in. You borrow the serialised reusable containers and bring them back – free of charge. You only pay if you don't return them on time – just like with books in the library. Around 9.5 million items of disposable packaging have already been replaced by Vytal.

How many customers do you have and where is the reusable crockery being used?

We have more than 600,000 registered users. Our crockery is available in more than 7,000 restaurants, canteens and grocery shops in Germany and Europe, and we have partnerships with large retail chains, the catering trade and DAX companies. With a return rate of 99 per cent and a return time of less than five days, Vytal is more efficient than the German bottle deposit system. With Vytal Events & Entertainment GmbH, we now also offer our system in the event and entertainment sector. One recent innovation is the Vytal Pepsi Cup – an intelligent reusable cup that we developed together with PepsiCo for events.

How does Cologne help you as a start-up?

It's very easy to get to know people in Cologne. The people here are very open and unpretentious, which is a crucial factor for us in recruitment. And the mutual support among company founders in Cologne is great.



A WELL-CONNECTED METROPOLIS

Its central location in Europe and excellent infrastructure make Cologne a key hub. The trading centre on the Rhine can be reached by land, water, air and digitally via fibre optics.



RAIL NETWORK

Cologne is connected via **30–35 long-distance train lines**.



COLOGNE'S PORTS

Cologne's 5 ports (Godorf, Niehl I, Niehl II, Deutz and Rheinauhafen) together form the **second largest** inland port facilities in Germany.



COLOGNE CENTRAL STATION

With around **102 million passengers** every year, Cologne is one of the busiest railway hubs in Europe.



EIFELTOR FREIGHT CENTRE

It is one of the **most important large-scale handling facilities** for combined traffic in Europe.

POPULATION

With a population of **1.1 million**, Cologne is the biggest city in NRW.

POTENTIAL

180 million Europeans can reach Cologne within one hour by plane.

FIBRE OPTIC NETWORK

At around **80 per cent**, Cologne has the highest expansion rate of fibre optic lines in Germany.



MOTORWAY NETWORK

One of the largest motorway hubs in Europe with access to **10 motorways**.



COLOGNE BONN AIRPORT

Germany's **third-largest** airport measured by freight.

“As a logistics location, the conditions could not be better”

Andree Haack is the Councillor for Urban Development, Economy, Digitalisation and Regional Affairs for the City of Cologne.

Mr Haack, what makes Cologne stand out as a logistics location?

Cologne benefits from its central location in Europe and its close proximity to Belgium, the Netherlands and Luxembourg. It is also connected to all major modes of transport. Cologne/Bonn Airport, the Cologne ports with their CT terminals and the Eifeltr CT terminal make Cologne an important hub for national and international freight transport. Furthermore, Häfen und Güterverkehr Köln AG (HGK), one of the most important trimodal logistics service providers, is based in Cologne. With HGK Shipping, it operates the largest fleet of inland waterway vessels in Europe, transporting around 43 million tonnes of goods every year with over 350 of its own and chartered inland vessels.

What significance does the logistics sector have for the business location?

Almost 5,000 logistics and retail companies are based in Cologne. With around 79,000 employees, they generate an annual turnover of around 108 billion euros, and the number of employees has risen by 31 per cent since 2008. Of the 20 largest German logistics companies, 18 have a branch or distribution centre in and around Cologne, including leading international providers such as Deutsche Post DHL, DB Schenker and Dachser. This further emphasises the attractiveness of the location, as it shows that the conditions in Cologne are ideal.

Looking to the future, how will the city develop as a logistics location?

Cologne has a dynamic start-scene that is particularly focused on sustainable urban transport solutions. There are also large companies such as REWE that are already using sustainable delivery vehicles. New pilot projects are emerging, including neutral city logistics hubs, and with FUSION COLOGNE, the largest contiguous industrial development area in the city of Cologne is being created – with over 50 hectares of space for logistics and industry. These developments strengthen Cologne's position as a leading logistics centre in Europe.

© AdobeStock; Maurice Cox, DGP



Dr von der Wiesche, the areas in which DLR works are where the really big questions of our time are decided: war, the energy transition, AI, e-mobility. Isn't there a danger of getting bogged down?

No, because we are focusing on our most important unique selling point: application-oriented research. We want what we develop here to help solve society's problems. To this end, we are in constant dialogue with politicians and the business community, so companies approach us and ask to work with us. We have a large number of major research and testing facilities that are unique.

Many of society's questions currently revolve around AI. The Institute for AI Safety & Security in Sankt Augustin is part of your area of responsibility. What is being worked on there?

Safety is one of our core issues. Rapid progress in the field of artificial intelligence poses a certain danger. Our team in Sankt Augustin is aiming to consider issues of safety, transparency and ethics from the outset when developing such systems, which is exactly what is already being done in aviation. AI systems will soon be part of the critical infrastructure, and protecting them from the outset is particularly important in today's world. At the Institute for AI Safety & Security, we are working on initial pilot projects in the transport sector – for example, how AI can be used in traffic control. We currently have around 80 people at the institute, and in the medium term we plan to grow to 120 employees.



“Our goal is to solve society's problems”

Dr Melanie von der Wiesche has headed the German Aerospace Center (DLR) West's sites since 2022. Her plan: to make DLR a pioneer in AI research.

Where will you find the additional 60 people you want to hire at the Institute for AI Safety & Security?

We have a major locational advantage: People – especially younger people – are keen to live in Cologne and the region. I know this from personal experience; my daughter moved back to Cologne from Regensburg after university. I also came here myself, from Hesse, to work after I finished my studies. Then there are also the many excellent universities and technical colleges whose graduates we want to, and often can, convince to join us. That is also one of the reasons why this centre was established at our site and not at another DLR location. ■

THE DLR IN COLOGNE: UNIQUE IN EUROPE

The DLR (German Aerospace Center) site covers an area of 55 hectares. In addition to the DLR's research and central facilities, the European Space Agency (ESA) has based its EAC astronaut centre here. The DLR concentrates its AI activities at the Institute for AI Safety & Security in Sankt Augustin. This is where theoretical ideas are turned into concrete projects that use artificial intelligence to simplify the everyday lives of people and companies.

CARS AND TRANSPORT – ONLY SMARTER

At DLR's Institute for AI Safety & Security, researchers are working on the future of traffic control and the automotive industry. Much of this is centred around one of Europe's most ambitious projects: Gaia-X. The aim of this is to create a European data infrastructure that is independent of major US corporations such as Amazon or Microsoft.

GAIA-X 4 FUTURE MOBILITY

The name encompasses six projects that are developing and implementing Gaia-X-based future mobility applications. Under the coordination of the Institute for AI Safety & Security, the partners are working on a decentralised data and service ecosystem. Companies, local authorities and other interested parties can then develop AI-based solutions for traffic problems.

CATENA-X

Behind this abstract term lies a platform through which the automotive industry can exchange data and jointly develop applications. Participants include not only manufacturers, but also suppliers, software companies and the German automotive association ADAC. Catena-X enables the automotive industry, for example, to develop applications to scrutinise its own supply chain for sustainability criteria.



Innovative technology:
Dr Melanie von der Wiesche stands before an impressive parabolic mirror at the DLR headquarters in Cologne.

A CENTRE WHERE THE WORLD COMES TO TRADE

Three million visitors a year and more than 54,000 exhibiting companies from 122 countries: **Koelnmesse** has been in business for 100 years. The trading centre on the Rhine is one of the largest in the world. With the new Confex centre, Koelnmesse is increasing its conference capacity by more than 6,000 people.



“Cologne will be the most attractive downtown exhibition centre in the world”

Trade fair boss **Gerald Böse** on the new Confex conference centre and the plans for the future of Koelnmesse.

Mr Böse, how is the trade fair location doing in its anniversary year?

We have recovered well from our worst crisis since the Second World War. During the coronavirus pandemic, we were effectively banned from working, but the last few financial years have shown that interest in trade fairs remains. Humans are social beings – that doesn't change. Overall, we are doing very well again, almost back to the level we were at before the pandemic.

What is special about Cologne as a trade fair location?

The Cologne exhibition centre is the third largest in Germany and among the top ten in the world. We are also one of the most international trade fair centres in the world, with around 54 per cent of our visitors and around 80 per cent of our exhibitors coming from abroad. The wide range of hotels and restaurants makes Cologne even more attractive as a trade fair location.

In the summer, you opened the Confex conference facility at the Cologne exhibition centre, an important milestone.

Absolutely. The new Confex is a hybrid of conference centre and exhibition hall, which makes it much more flexible than our classic halls. Now, more than 6,000 conference guests can meet at the same time, a size for which there was previously no option in Cologne. We want to invest around a billion euros in the expansion and modernisation of our exhibition grounds by 2040. The aim is to become the most attractive downtown exhibition centre in the world.



CONFEX: A NEW BENCHMARK FOR CONFERENCES

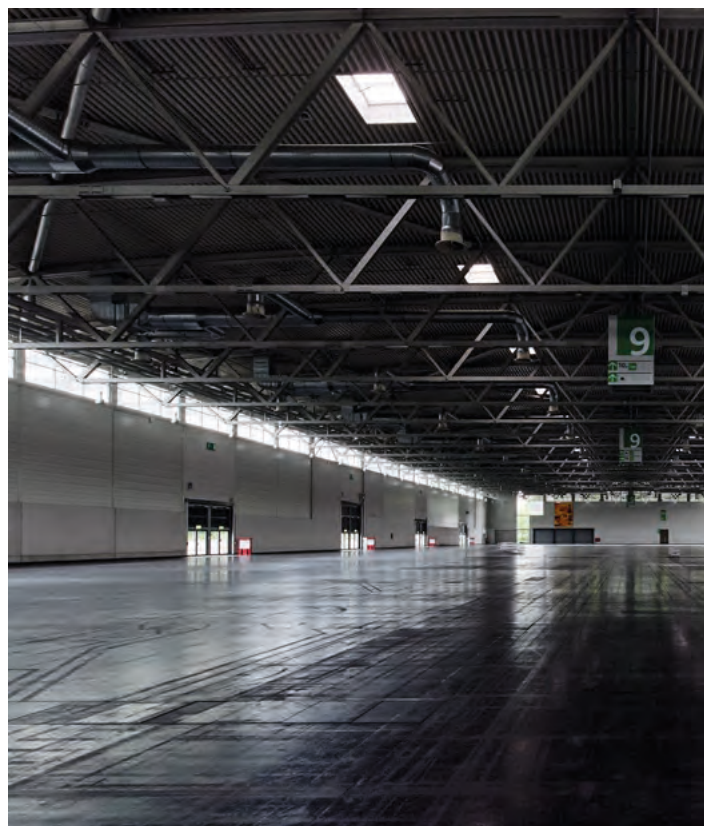
For the first time, Cologne can bring together over 6,200 congress guests in one place with Confex; 4,300 in the Confexhall alone, which can be divided into three sections. On top of this, there are 22 rooms of varying sizes, and further rooms and spaces can be added to the Confex via connections to other halls.





WHERE WORLD MARKETS MEET

Behind the scenes at Koelnmesse GmbH, around 700 employees are currently working to realise over 50 events in Cologne alone. These events are the world's leading trade fairs for more than 25 sectors and include Anuga, ISM and gamescom.

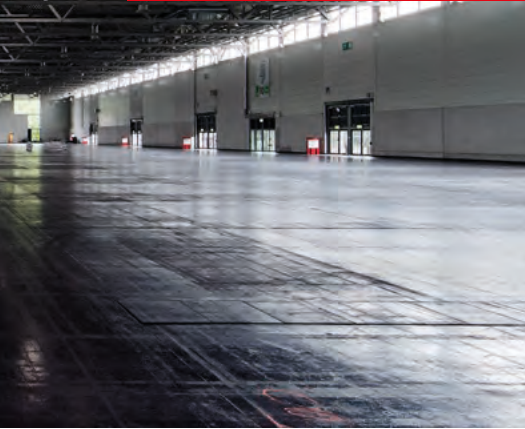


GLOBALLY CONNECTED

Cologne's trade fairs are some of the most international in the world: On average, around 80 per cent of exhibitors and over 50 per cent of visitors come from abroad. In addition to the events in Cologne, Koelnmesse is also expanding internationally. With subsidiaries and representative offices in over 100 countries, it organises trade fairs in North and South America and Asia, including interzum guangzhou and THAIFEX – Anuga Asia.

SPACE FOR GREAT THINGS

With an indoor and outdoor area of around 400,000 square metres, the Cologne exhibition centre is among the top ten in the world. Eleven exhibition halls, two conference centres and a 100,000-square-metre outdoor area offer space for trade fairs, conferences, meetings and events.



“The exhibition centre is as much a part of Cologne as the cathedral”

Cologne's Mayor **Henriette Reker** on Cologne as a trade fair location.



Ms Reker, this year Koelnmesse is celebrating its 100th birthday. Which trade fairs stand out for you every year?

It is difficult to single out individual trade fairs. Koelnmesse's strength is its broad portfolio – be it education, health, nutrition, sport or art, the whole world meets in Cologne. There is real diversity, and each trade fair brings its own special atmosphere to the city. And lots of people stay here for a day or two afterwards.

And they spend money in the city, in restaurants, hotels and shops. What role does the exhibition centre play for the city's economy?

Koelnmesse's appeal is important and good for the city of Cologne, because almost all sectors of the economy benefit from the trade fair business. The trade fairs attract around three million visitors to the Rhine every year, generating around one billion euros in revenue here and in the region. The city's importance as a trading centre has a 2,000-year-old tradition, which many people abroad also associate with Cologne. The exhibition centre continues this tradition, and it's as much a part of the city as the cathedral.

This year, Koelnmesse opened a new conference location with Confex, another plus point for the city?

Building Confex was a far-sighted strategic decision – despite the great economic uncertainty during the coronavirus pandemic. These are exactly the right decisions that will also benefit the city. Confex will further increase Cologne's importance not only as a trade fair centre but also as a location for conferences.



Marko Seifert; Jens Koch; Koelnmesse

Seal of quality for trust

HIDDEN
CHAMPIONS
FROM
COLOGNE

Trusted Shops has been creating trust in e-commerce for 24 years. In an interview, its founder **Jean-Marc Noël** talks about the Cologne-based company's new goals – and explains why sustainable growth is more important than quick profits.

Jean-Marc Noël is the founder of Trusted Shops GmbH and has been its Managing Director since 1999.



Mr Noël, Trusted Shops has been in the market for 24 years and has established itself in e-commerce with its quality seal. Right from the start, you and your co-founder Ulrich Hafenbradl focused on long-term growth instead of selling quickly. What was your motivation behind this?

Our aim is to eliminate uncertainties in e-commerce and create trust between companies and their customers. We have always focused on building something sustainable; it was never about making a quick buck. We wanted to create a company that is successful in the long term and offers real added value, and this vision has also guided us through difficult times.

You have survived a number of crises, including the bursting of the

dotcom bubble. What helped you to overcome these challenges?

In every crisis there is also an opportunity. After the dotcom bubble, we had the advantage that our product was strong and we had

major partners by our side. The subsequent insolvency of the partner subsidiary was a tough blow, but when we then lost the investor it gave us the opportunity to regain full control of our company. It was a bet on the future of online shopping that paid off.

The pandemic has presented many companies with challenges. How has Trusted Shops developed during this time?

The pandemic has greatly accelerated online retail, which has also given us a boost. We have used the opportunity to recruit talent from outside the company and to expand our team internationally. Now, with the current economic situation, the focus is on strengthening our existing team. Cologne remains our headquarters. We are very well positioned here in Europe, and the local digital sector has become strong.

Trusted Shops is now also expanding internationally and offering ratings for other services. What are your plans for the future?

We want to continue to grow and tap into new markets. We are currently collecting reviews for other services such as workshop visits and customer service. In the long term, we want to create a comprehensive trust ecosystem that not only covers online retail, but also other areas of everyday life.

Trusted Shops
in figures

30 million
members worldwide

900,000
orders per day

800
employees, of whom 400
are in Cologne

Rising high on stairlifts



Stefan Seick (left), Managing Partner of the Liftstar Group, and Managing Director Hartmut Bulling.

Through company expansion and new mobility solutions, the **Liftstar Group** is positioning itself for the future.

Hartmut Bulling didn't know what to expect when he travelled to an appointment at Frankfurt Airport in 1995. He had applied for a job advertised as involving a "high-quality product for private end consumers". "I could have imagined all sorts of things, but not what it actually turned out to be," he recalls. The job in question was at the Cologne-based family business Liftstar. Founded in 1977 as a subsidiary of lift manufacturer Hopmann, the company is now the market leader for lift solutions in Germany and Austria and also sells them in South Africa. A dedicated sales and service team, the largest in the industry, forms the centrepiece of the company. The portfolio comprises six mobility brands, the best known of which is Lifta, synonymous with stairlifts in the same way that Uhu is synonymous with glue in Germany.

Liftstar campus: Getting employees involved

Almost 30 years later, Bulling welcomes us to the company headquarters in the Marsdorf district of Cologne. He has been Managing Director since 2000 and now runs Liftstar together with Stefan Seick, who is also a partner. They run the business from a campus, which was inaugurated in 2023 and features lots of glass, flexible room concepts, parent-child offices, a cafeteria and large-scale photovoltaics.

"We planned this building in close consultation with our 400 employees at the site," explains Seick. Everyone was able to contribute ideas, and the best ones were incorporated. The campus expansion was necessary to accommodate the strong growth in the company's

workforce – which has increased by 70 per cent since 2016. "The openness and transparency of the new building reflect the core values of our corporate culture and are a signal to potential employees," says Seick. The Cologne location is particularly attractive for young people and therefore offers ideal conditions for the company.

Growth ahead

Liftstar is active in a booming market. The demand for lifts is being driven considerably by the ageing population and the growing need for accessible living solutions. Liftstar recently generated sales of over 220 million euros, and the trend is rising. It's a successful model, and Bulling and Seick currently see a growth market in home lifts, mini lifts for the home. "We are addressing completely new customer groups with the Lifton brand," says Bulling. Unlike a stairlift, a shaftless lift is also of interest to younger people, for example if they are planning a new build or conversion. The long-standing Cologne-based company once emerged from the lift business, so you could say this is a return to its roots. ■



An everyday helper tailored to your needs: the Lifta stairlift from Liftstar

The product is the star of the show

Michelin-starred chef **Vincent Moissonnier** reveals where to find the best business lunch in Cologne. His tip: “Ristorante Alfredo”.



Fresh seasonal cuisine: “Ristorante Alfredo” on Tunisstrasse near the opera is characterised by its exclusive ingredients and perfect seasoning.

SEMI-SEARED GAMBERONI FROM GENOA

I don't have a regular dish when I visit because he offers fresh products, depending on availability and the season. In spring, for example, he makes incredible gamberoni from Genoa, which he sources directly from there and prepares semi-raw. This means that they are exposed to heat for a very short time and only get a light veil of roasted flavours. When you have them in your mouth and close your eyes, you're in Genoa. It's true that you're likely to pay a few euros more – if you want the full experience with starter and dessert, you should expect to pay 120 euros per person. It's expensive, but absolutely appropriate for the product and the ambience. ■

Ristorante Alfredo,
Tunisstrasse 3, 50667 Cologne

For me, the place to go for a really good lunch is and remains “Ristorante Alfredo” on Tunisstrasse by the opera. It's a picture-book Italian restaurant, like something out of a film, with white tablecloths and beautiful glasses. It's an airy space with an incredible ambience, created by the owner Roberto, who is known as Tino. For me, he is the host par excellence.

His food is exceptional, very focused on the product and with an emphasis on fish. He has a fine feeling for flavour and for searing fish briefly. This is unique and epitomises Tino's cuisine: no frills, no bells or whistles. He gives the product the starring role. Tino is also one of the few people who know

how to recommend wines that go well with his cuisine. They are often elegant, not so alcohol-heavy, more on the mineral side.

THE INTERVIEWEE: VINCENT MOISSONNIER

ran the restaurant “Le Moissonnier” with his wife Liliane for almost 40 years and won a MICHELIN star every year from 1996 – and two starting from 2008. The restaurant closed temporarily in 2023, but returned at the beginning of the year with a bistro concept and won another star.



*Wishing to **set up**
business in Cologne?*
***We support** you in
all matters relating to
your business.*

