

WAGEN EINS

FRIENDLY TAKE-OVER: HOW ARTIFICIAL INTELLIGENCE IS CHANGING THE WORLD OF WORK

SHOWING SOME BACKBONE: EXERCISES TO STRENGTHEN YOUR BACK

THE DEUTSCHE BAHN MAGAZINE FOR
BUSINESS TRAVELLERS



THE START-UP MODEL MAKES IT BIG

WHAT LARGE COMPANIES
CAN LEARN FROM THE SMALL.

GOOD IDEA

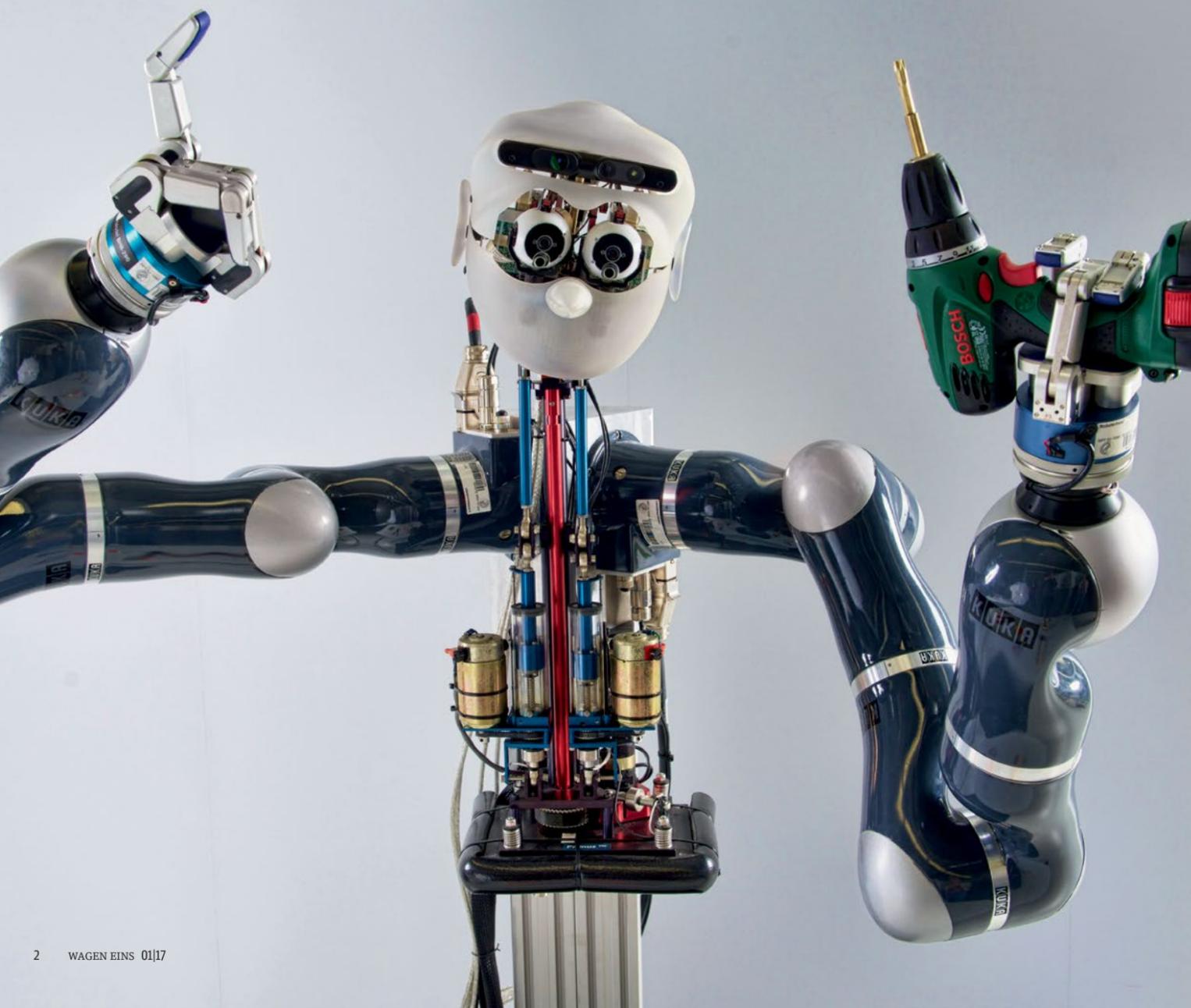
Independent thinking

Walking over uneven terrain, balancing out light nudges or working with a screwdriver at the top of a ladder: tasks we humans find easy represent highly complex challenges for machines. A team of scientists at the Max Planck Institute for Intelligent Systems in Tübingen is researching how we can teach robots to respond flexibly to changes such as obstacles, blows and nudges. »The algorithm can tell the difference between plan and

reality, and adjusts on that basis,« explains robotics expert Ludovic Righetti, who won the Heinz Maier Leibnitz Prize last year for his work. When the scientist knocks the two-legged robot Hermes out of balance, the robot can correct its stance with compensatory movements that look almost human. The new control system developed for the robot by Righetti's team is catching on quickly and is already being used in several robots.

ROBOTICS RESEARCH

Scientist Ludovic Righetti develops computer programmes that allow robots to make complex decisions.



All aboard

EDITORIAL

»THE EXPERIMENT WITH THE DRIVERLESS BUS SHOWS THAT THE DIGITAL FUTURE IS TAKING ON EVER MORE CONCRETE FORM AT DEUTSCHE BAHN.«

DEAR READERS,

In Berlin one sunny morning a strange, almost noiseless vehicle was seen travelling the streets of the Schöneberg district. It looked a little like a gondola, but this vehicle was equipped with an intelligence that allowed it to brake automatically as soon as a pedestrian came near. In future, the driverless bus currently being tested by DB in Berlin and Leipzig could be controlled via app by travellers using it as a shuttle to the train station. Yes, that's still a long way off but the steps taken towards a new digital future at Deutsche Bahn are taking ever more concrete form. Find out more on page 10.



In an interview on page 12, trend researcher Sven Gábor Jánoszy explains how quickly digitisation is changing our day-to-day lives. His view of the effects of artificial intelligence not only takes the dangers to employment into account – he also sees plenty of opportunities.

Opportunity is also the main theme in our essay, which asks: what can big companies learn from start-up culture? The major corporations have long recognised that they need to embrace the methods used by start-ups. You can read all about the courses they are pursuing on page 16. I hope you enjoy reading this new issue of WAGEN EINS and that you find lots of inspiration while reading these pages!

Best regards,
Karina Kaestner, Head of DB Corporate Sales

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ALSO ONLINE

In addition to the print edition of WAGEN EINS you can also find us online, where we publish updated content every month.
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MY FAVOURITE SPOT



JÜRGEN VON DER LIPPE

Mr von der Lippe, what's your favourite rail route?

People don't generally seek out a particular rail route; it's normally dictated by their work. So for me this means Berlin-Cologne, Berlin-Hamburg and occasionally Berlin-Munich. I've loved trains ever since I was a kid, and when I travel by train I usually arrive at my destination in a good mood. I also love it when the guards make funny announcements, though unfortunately I've only read about the most famous ones, such as: »Dear passengers, this train is not an Advent calendar, please use the other doors to get on the train!«

Do you book a specific seat?

I prefer a single seat next to the window.

What do you always carry with you?

Newspapers, books and my laptop.

What's the perfect journey time?

What it says on the timetable for that particular route. It's inconvenient when you have to spend any longer on the train because you usually have an appointment at your destination.

Do people sometimes come up to you when you're travelling?

Of course people sometimes want autographs, or they say something nice, and there are often conversations that go like this: »It's you, isn't it?« - »Who do you think I am?« - »Your name's on the tip of my tongue, help me out here!« To be honest, that's why I prefer to book a single seat.

BIO: Comedian, musician, TV presenter and actor Jürgen von der Lippe, 69, has been a popular performer in Germany for many years. This year (until December) he is on a book tour to promote his bestseller *Der König der Tiere* (published by Knaus Verlag). He is also touring Germany with his show *Wie soll ich sagen...*

Rail & Co.

CHECK THE CARRIAGE SEQUENCE ON ICE TRAINS USING DB NAVIGATOR

The handy DB Navigator app means you can now access up-to-date information in real time about the order of the carriages on ICE trains. Go to travel information, click on the carriage sequence symbol and you can see the current position of each carriage in relation to the platform.

NEW APP FINDS ALTERNATIVE ROUTES

A great new service for travellers: the DB Streckenagent app now delivers a push notification to provide passengers with the latest information on delays or problems and suggests alternative routes. Users of the app can select the routes that they want to monitor on a one-off or permanent basis. If there is a problem of some kind, the app will keep the user updated until the service is back to normal.

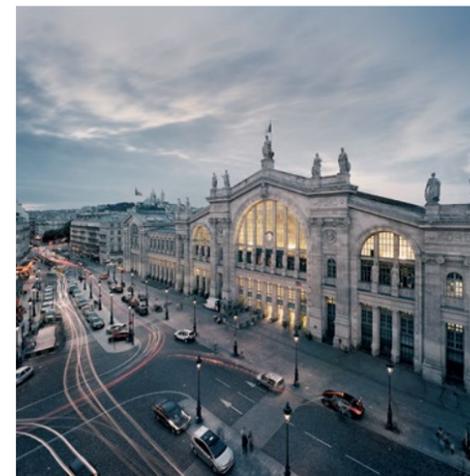
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RENTAL BIKES FROM CALL A BIKE, STADTRAD AND LIDL-BIKE ARE AVAILABLE 24 HOURS A DAY IN MORE THAN 50 TOWNS AND CITIES, AND AT ALL LONG-DISTANCE TRAIN STATIONS. REGISTER ONLINE AND GET AROUND TOWN BY BIKE.

LONG-DISTANCE

Faster journeys to Paris, more frequent services to Amsterdam and Brussels

From Frankfurt to Paris in just four hours - an unbeatable journey time and a great choice of connections, including the new ICE Sprinter trains. From Mannheim, the journey takes just 2 hours and 58 minutes, and timetable changes mean that six trains now whisk you directly to the French capital every single day. The journey from Stuttgart has been reduced by 30 minutes, and now up to five direct trains a day will take you to Paris in just 3 hours 11 minutes. Deutsche Bahn has also expanded its services on the popular business traveller route from Frankfurt to Brussels, which now takes just three hours. The number of direct ICE connections between Frankfurt/Main, Cologne and Amsterdam has also increased from six to eight per day in each direction. This includes a new early morning fast connection from Frankfurt/Main to Amsterdam via Cologne.



PHOTOS: PICTURE PRESS; DB AG (2)

ICE3 gets a facelift

DB is sending its 66 ICE3 trains for a makeover so that they will offer passengers even greater comfort and reliability. After 15 years of service, the trains will be redesigned and made fit for the future at the Nuremberg works. Passengers can look forward to new interiors and the very latest on-board technology. The trains will also be fitted with the European Train Control System (ETCS) so that they can run on corresponding high-speed routes. From December they will be running on the new high-speed line between Berlin and Munich, which will cut journey times between the two cities to less than four hours.



ON EVERYONE'S LIPS

Blockchain

WHAT IT MEANS:

The word blockchain [a record of blocks of data] was originally used to describe the technology supporting the virtual currency Bitcoin. The idea behind the system is as old as the Internet itself. How do you create networks so that they are fault-tolerant? This means they can continue to operate in the event of data manipulation or the failure of one or several of their components. Blockchains could provide the solution, as they take financial transactions from decentralised computers and combine them to form a kind of infinite virtual ledger. So, for example, if person A sends money to person B, the encrypted transaction and the data of all parties involved is recorded in a blockchain. When the bank releases the money, the data for this transaction is added to the end of the existing chain. The same thing happens if the recipient accesses the money and makes a further encrypted transaction to another recipient. And so it goes on. The result is endless super chains of information where individual data cannot be retrospectively deleted or amended.

WHAT IT REALLY MEANS:

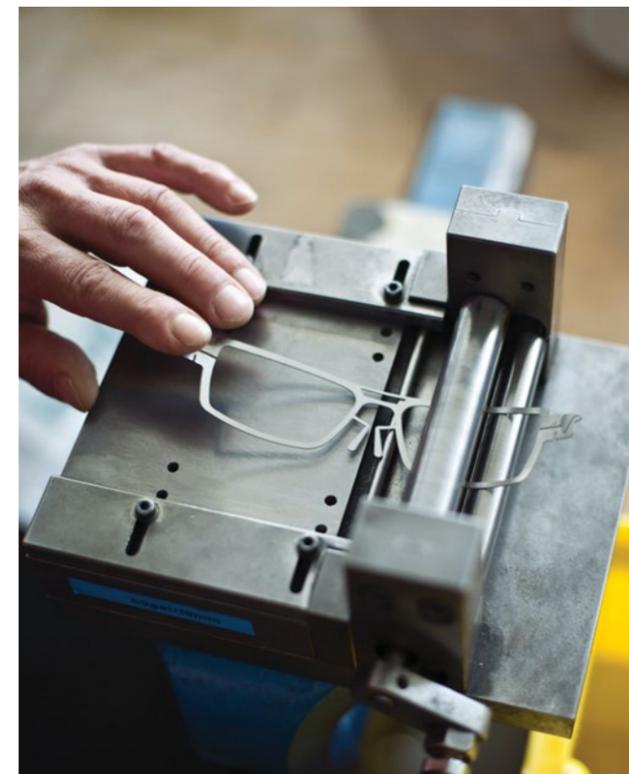
Blockchains are the next big thing for the Internet. Experts agree that these endless chains will push even the most determined hackers to the limits of their energy and computing power. They will increase the security of virtual transactions for both private and business users. But on the other hand, if sensitive transactions are managed by decentralised computers, we will no longer need banks to carry out our financial transactions, stock exchanges to buy our shares, or insurance agents to deal with our insurance policies. All purchases, contracts and processes could be handled by computer networks using blockchains as central databases that can handle up to a million write operations per second. Big data takes the place of cash.

AN EYE FOR DETAIL

Glasses are no longer merely functional items. In Germany, more and more people are treating them as fashion accessories. Manufacturers are experimenting with new materials, shapes and designs – with exciting results.



STEEL AND STONE: Thin stainless steel is the material of choice for eyewear manufacturers ic! berlin [left above]. The frames are laser-cut in a single piece and then shaped as required [right]. Meanwhile, Austrian manufacturers Rolf Spectacles are using stone, wood and horn in their handmade frames [below left]. ic-berlin.de
rolf-spectacles.com



PHOTOS: PR (2); DAVIDS/DARMER

Sometimes you have to look closely to discover something special. That's certainly the case on this grey, damp, late afternoon in central Berlin, not far from Alexanderplatz. Down a quiet side street you come upon an inconspicuous, graffiti-covered building with a display window. The warm yellow light reflects off the wet pavement. When you step through the narrow wooden door onto the tiled floor of this tiny shop, you don't exactly think flagship store.

But it's only when you get inside that you find out what makes this space so special. Dozens of spectacle frames are displayed like works of art, hanging from steel wires or draped over aeroplane service trolleys. You're allowed to touch – and be amazed! Because all of the frames manufactured by ic! berlin are made without a single screw. They are all handmade in Berlin from very thin (0.5 mm), ultra-light stainless steel.

Their latest innovation is a collection of flexible sunglasses. The frames are injection moulded using a hot, liquefied thermoplastic elastomer called TPE-U. Prices start at €349. The sales assistant tells us how a customer came in earlier because a car had driven over her glasses. It was just a case of straightening out the frame, and she was good to go.

Of course it's a long time since glasses were merely an aid to reading. In the past Germans often mockingly referred to these everyday devices as »nose bicycles«, but nowadays people are turning to glasses as an accessory that makes a statement about who they are and their personal style. A survey carried out by online retailer Edel-Optics in January 2017 shows that 77 per cent of fashion experts and designers believe glasses will either maintain or increase their elevated status in the fashion world.



NICELY FRAMED: Technology with visual appeal – this is the aim of the Mykita label. Its glasses [left] feature a special screwless hinge. mykita.com/de Rolf Spectacles come in natural finishes and have a vintage look [centre]. ic! berlin produces rubberised sunglasses that are extremely flexible [below].

Some wearers even feel they are an expression of their attitudes: »Regardless of new designs and colours, glasses are also part of the trend towards increased sustainability,« says industry expert Kerstin Kruschinski from the independent German initiative *Kuratorium Gutes Sehen*: »There are now spectacle frames made out of bamboo, recycled paper and metal – and, of course, wood.« The Tyrolean family business Rolf Spectacles has enjoyed considerable success with its fine, ultra-light frames that combine wood, stone and horn. These remarkable glasses are also made without screws.

The market in Germany is brimming with innovative designs. ic! berlin is just one of the successes behind the not unreasonable claim that »Berlin has long been one of the world's leading fashion capitals. Not just in textiles, but in optometry.« This is how the *Süddeutsche Zeitung* ungrudgingly describes the German capital.

Another good example is Mykita, which employs around 300 staff. Every one of its featherweight frames is made in a listed building in the Kreuzberg district. 80 separate steps are required to create the frames, which are cut from stainless steel and then given an avant-garde or retro look. The team at Mykita are especially proud of the way they can produce customised shapes using a 3D printer and a material known as Mylon.

The company views itself as a modern »manufactory« – an artisans' workshop – but the term seems somewhat less accurate now that it has 14 stores around the world and an annual turnover that the industry estimates at €30 million. »Brands like Mykita and ic! berlin started off small with a focus on pure design. But now that they have grown they can be considered mainstream,« says Dagmar Schwall from trade journal *EYEBizz*.

The good news for people who want a more individual look is that there are growing numbers of small manufacturers in Germany who are inspired by this new passion for eyewear. They include micro-manufacturers such as violin makers and cabinetmakers who produce one-off wooden frames as a sideline. Then there are the designer frames created from recycled vinyl records. It's just a case of keeping an eye out for them!

Check out more designs at wagen-eins.de/mitreden/brillen

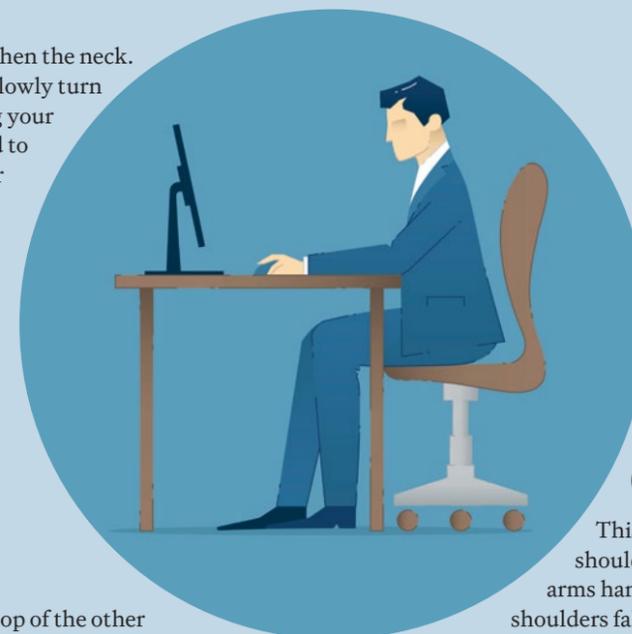
PHOTOS: MICHAEL DANNER/LAIF (2); PR (4); SVETABELVA/GETTY IMAGES

Show some backbone!

EVEN IF YOU HAVE AN ERGONOMIC CHAIR, SITTING FOR LONG PERIODS STILL PUTS A STRAIN ON YOUR BACK AND SPINE. STRENGTHEN YOUR BACK WITH THESE SIMPLE EXERCISES.

Head turner

A simple sitting exercise to strengthen the neck. Place your hands on your thighs. Slowly turn your head to the right while raising your chin and breathing in. Return head to straight ahead position, then lower your chin while breathing out. Repeat on both sides.



Shoulder dropper

This simple exercise strengthens the shoulder girdle and thoracic spine. Let your arms hang loose next to your thighs. Let your shoulders fall forward, while turning your thumbs inwards and breathing out. Straighten your shoulders, turn your thumbs outward and breathe in. Let your shoulders fall forward again, turn your thumbs inward and breathe out.

Muscle tenser

Sit up straight. Place one hand on top of the other behind your back and push against the chair backrest by tensing the muscles in your stomach and buttocks. Breathe in at the same time. Relax your muscles, release the pressure and breathe out. This exercise strengthens your lower back.

FITNESS APPS



JUST SIX MINUTES A DAY

No time for daily back exercises? No more excuses! You only need six minutes to do the exercise

modules in the 6 Minute Back Pain Relief app, with the additional motivation of a countdown in the background. Each module offers different levels of intensity and will help to alleviate back problems and prevent pain – but only if you do them regularly. This is why the app sends you an automatic reminder to do your daily exercises. itunes.apple.com/de



FOR PEOPLE WHO SIT TOO MUCH

The exercises provided by the RückenDoc app have been specially designed for people who

spend a lot of time sitting in front of their computers. They aim to strengthen the back muscles and spine and prevent back pain and slipped discs. The app offers 30 different exercises with additional information, descriptions, photos and videos. And once again lack of time is no excuse – it also provides special exercise programmes for busy people. For iOS. itunes.apple.com/de



EXERCISING WHILE ON THE MOVE

For your back to be in tip-top shape, your whole body has to be working properly. This is why the

exercises in the Dr. Kade RückenFit app take a holistic approach and also focus on the shoulder and hip joints and stomach muscles. Tired stomach muscles can put a strain on the back, so it's a good idea to work on them, too. The app provides many useful, practical tips and advice on the right way to carry, lift, sit and stand in the office. play.google.com/store

Creative ideas to improve your travels

OUR PRIORITY IS ENSURING THAT YOU HAVE A COMFORTABLE TRAIN JOURNEY FROM A TO B. SO AT DEUTSCHE BAHN WE ARE ALWAYS ON THE LOOKOUT FOR NEW IDEAS - TO IMPROVE YOUR EXPERIENCE TODAY AND TOMORROW.

Railway stations for a mobile future

The »DB mindbox« is one of a number of initiatives providing support to start-ups. Deutsche Bahn has set up a 700-square-metre facility at the Jannowitzbrücke commuter train station in Berlin, where it works with start-ups to develop ideas for the future of travel and mobility. One of these is emmy, a rental service for electric scooters. The facility includes work stations, mentoring programmes and workshops. The aim is to try out new ideas in a short timeframe.



Tick tock goes the clock

They've already proved their effectiveness in lifts and on escalators, and now modern remote monitoring sensors are being introduced into station clocks. These innovative radio modules can detect all kinds of problems, such as if the glass is broken by vandals. This means that damage can be repaired much more quickly. Fifty station clocks will be fitted with LoRa radio modules as part of a pilot project.

SMART LOCKERS

Deutsche Bahn is currently trialling the DB Bahnhofsbox (DB station box) in conjunction with the supermarket Edeka. Passengers can have their purchases delivered directly to a refrigerated locker in the station. In future, the boxes could also be used for picking up dry cleaning or the keys to a rental car. The first trials start at the end of March in Stuttgart's main station and at the end of April in Berlin's Ostbahnhof station. The smart lockers can be rented and controlled via a smartphone or computer.



ORDER A MINIBUS VIA APP

Deutsche Bahn has been testing out a driverless bus scheme in Berlin and Leipzig. DB staff already have the option of using the driverless minibuses, and in future rail passengers will be able to use a smartphone app to book a bus to take them home from the station.



Entrepreneurial spirit

Forging great ideas - start-ups are working with DB to come up with exciting new business models and products under the umbrella of Deutsche Bahn Digital Ventures GmbH. Market-ready prototypes are being rapidly developed to provide customers with even better quality and service. Deutsche Bahn employees have an opportunity to turn their business ideas into reality under ideal start-up conditions. €100 million of venture capital has been made available for up to 2019.

SMART POINTS

Deutsche Bahn's rail network has 70,000 sets of points that ensure its passengers get from A to B. A fault in just one of these sets of points leads to train delays, so they have to be monitored constantly. DB has recently started fitting points with smart sensors so that faults can be detected more quickly. They provide feedback on whether the points are operating properly. »Diana« is a platform for diagnosing and analysing problems that sets off an alarm as soon as a fault is detected.



FROM BERLIN TO SILICON VALLEY

Deutsche Bahn and the start-up platform and investor Plug and Play are working together to link Berlin, Germany's start-up capital, with Silicon Valley and other leading centres for technology and innovation. The two companies have agreed to work together to identify start-ups that they can support with expertise and funding. For Deutsche Bahn, this partnership represents an expansion of its existing support programme for start-ups and an entry into the world of international early-stage financing for entrepreneurs. The multitude of start-ups on both sides of the Atlantic provide a dynamic environment for working on data-based mobility solutions that can quickly lead to new products and services throughout the travel chain.



Wireless rollout

So far this year, 250 ICE trains have been equipped with Wi-Fi technology. Available to all passengers free of charge, it offers stable connections throughout the rail network.

DIGITISATION AND
INDUSTRY 4.0 – WILL
MACHINES SOON BE
SMARTER THAN US?
FUTUROLOGIST SVEN
GÁBOR JÁNSZKY EX-
PLAINS HOW **ARTIFICIAL
INTELLIGENCE** IS TRANS-
FORMING THE WORLD
OF WORK AND HOW
COMPANIES CAN ADJUST
TO THE CHANGE.

PHOTO: JONAS HOLTHAUS

Seeing opportunities in the digitisation of the world of work: trend researcher and author Sven Gábor János in his Leipzig office, shot by photographer Jonas Holthaus.

Mr Jánoszy, what role will artificial intelligence play in the employment market of the future?

The main role! In the past, we've seen how humans were replaced by machines that can carry out routine tasks in production plants or on assembly lines. Artificial intelligence will now affect even highly qualified jobs: professions such as doctors, lawyers, tax advisors, HR specialists, journalists and managers. Software-based programmes will produce legal documents automatically and make recruiting decisions independently. That's already happening today to some extent.

Can a machine or a piece of software be more intelligent than a human?

Artificial intelligence refers to the ability of machines to think logically and to develop strategies. We're not talking about machines having consciousness, or being able to love or hate. We're talking about software being able to give better answers than a member of staff because – for example – it knows automatically and immediately in the call centre which product a customer has, what problems and solutions there are for it, and ultimately what the customer is going to ask as soon as they dial the number.

But that's science fiction, surely.

We're well on our way there. In 2025, or probably even sooner, we will have digital assistants on our smartphones for each area of our lives: work and career, transport, health and shopping. And we will trust these programmes because a health assistant on our smartphone can give us a more accurate answer than a doctor. Think of IBM's Watson software, which was trained to diagnose cancer, among other things, and which can draw from such a wealth of data and cases in just a few seconds – data a human couldn't trawl through in a lifetime. This allows Watson to provide very fast and precise diagnoses.

How will artificial intelligence affect workflows in companies?

In future, companies will integrate programmes such as Watson into their databases. Based on predictions and data, the software-controlled operating procedure defines which products and services will be required in the next five hours or days, and ultimately runs the company independently. For example, supermarkets can use the programme to calculate what products they will need and how much. They then order these goods, and those alone, from their suppliers and producers – which obviously affects all the procurement processes and logistics services. In a third step the production division also integrates individual user data. When I have a cold, there's a vitamin supplement for me on the shelf immediately. The supermarket gets the information from the health assistant on my smartphone.

Sounds like a brave new shopping world and the age of the transparent consumer is upon us – is that really going to catch on?

It seems likely. Once one supermarket starts, others will follow.

»WHEN I HAVE A COLD, THERE'S A VITAMIN SUPPLEMENT FOR ME ON THE SHELF IMMEDIATELY. THE SUPERMARKET GETS THE INFORMATION FROM THE HEALTH ASSISTANT ON MY MOBILE.«

Will our offices soon be like our production plants are today – with not a soul in sight in some?

No, on the contrary. We're heading for full employment.

How, with increasingly smart machines taking over our jobs?

Some simple maths answers that one. Over the next ten years, around 1 to 1.5 million jobs will be lost in Germany due to automation. On the other hand, however, there are 6.5 million baby boomers who will be retiring and who will not be balanced out by later, lower-birth generations. All in all, three million jobs will be left unfilled. That's a very advantageous development for employees. Every reasonably well-educated worker will have a job. Also, the value of labour rises, so wages rise too.

Why do other studies come to different conclusions? According to some, 43 per cent of all jobs in Germany will be lost.

I'm familiar with these studies but I think they're wrong. These studies looked at which jobs could in theory be lost over the next 20 years. But they didn't

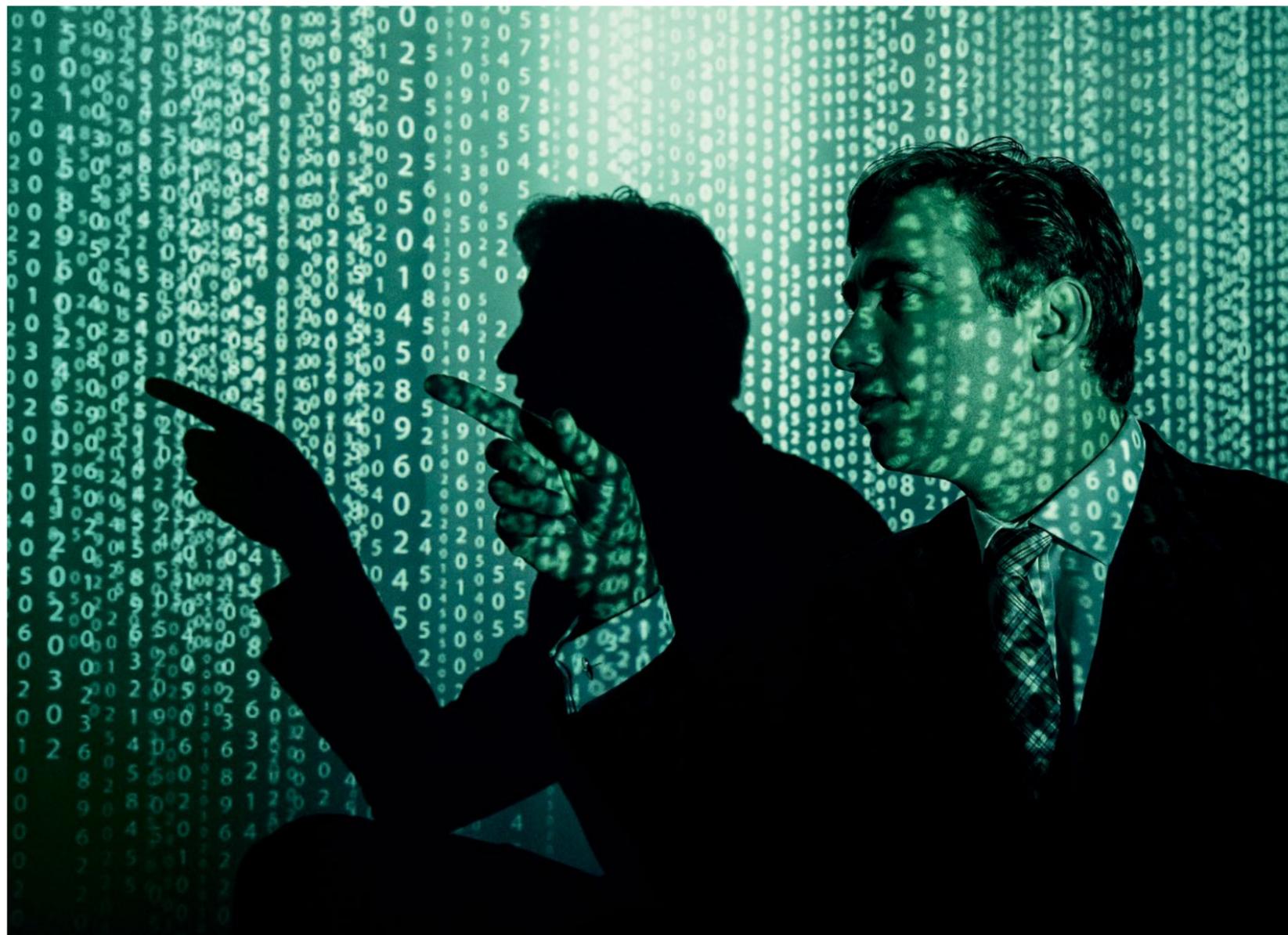


PHOTO: JONAS HOLTHAUS

**RAIL PROFILE**

In addition to his work as a researcher, Sven Gábor Jánoszy advises and coaches companies on strategy development. He travels several thousand kilometres by train each year. »My favourite route is Leipzig-Hamburg. You can't beat rail for speed and convenience on that journey.«

PERSONAL DETAILS

Trend researcher, author, speaker and journalist Sven Gábor Jánoszy (44) is the director of the Leipzig-based company 2b Ahead Think Tank GmbH and he is on the Board of Governors of the Karlsruhochschule International University in Karlsruhe. He sees his main task as empowering people to perceive changes and to decide on the best steps forward based on those insights. trendforscher.eu

ask how much it would cost to replace the workers. We took this into account and came to the conclusion that the costs would be too high and that employing humans would still be cheaper for a company. Only from 2050 onwards can we expect job losses on a huge scale.

So that's a problem we can look forward to facing in 30 years?

There will be winners and losers. People with job profiles that are no longer in demand will be needed elsewhere. Work in warehousing, logistics and accounting will be lost, while programmers, IT specialists and interface designers will be in demand. The task facing the state and society more generally is to stop the losers from slipping through the cracks, and to provide a safety net.

What qualities do companies need to have if they are to benefit from the transformation?

There is one key quality: they have to learn to forget. I call this the »rule-breaker strategy«. What I mean by that is to question all the basic rules that have been valid until now and to turn them on their heads so that

they become open to the new developments. In my work I try to anchor this kind of thinking in companies. One good example is the assumption in the automotive industry that every car needs a driver. This assumption leads me to build a car around this driver, one that is fast, safe and economical. But Silicon Valley has now – successfully – broken that rule. There is no driver, not even a passenger in some cases – you can just transport a suitcase. With no driver, I can build a very different type of car – and that's what it's all about.

If production plants can take care of themselves in future, is it conceivable that an artificial super-intelligence system could have aims that are different from ours?

If a machine becomes so intelligent that it is far better than all the others, it would probably – because of its ability to develop strategies – also be able to manipulate people. We still don't have a real answer to this. But we've got 30 or 40 years to find one.

Interview: Nicola Malbeck



START ME UP!

More and more major companies are employing start-up methods in an effort to remain competitive. Many others are establishing subsidiaries that promise innovations.

ILLUSTRATION: ANDREA DE SANTIS

FOCUS

They spoke with farmers and conducted around 100 interviews before getting stuck on a decisive issue: is it possible to use sensors to observe the growth of asparagus? That was in mid-February 2015 and time was running short. »Only at the second glance did we realise how ambitious our goal was,« remembers IT specialist Christian Lasarczyk. »The asparagus season begins in early April. If your solution is not ready to be delivered to the customer, you could find yourself waiting until the following season. We didn't have that much time.«

In six weeks his team succeeded in putting together an initial minimal product – a smartphone app that links up with sensors in the field to provide farmers with temperature data. The advantage of this product is that farmers can start to harvest at the best possible moment.

The app is the first product released by a start-up that is neither based in a Berlin courtyard nor supported by a business incubator. Deepfield Robotics is based in Ludwigsburg not far from its much bigger brother, Bosch, which employs 300,000 staff.

This kind of set-up is really catching on across Germany. In an attempt to remain competitive, a growing number of large companies feel compelled to integrate the advantages of the start-up culture into their structures because of the accelerating speed at which markets move.

By now, almost every single one of the DAX companies is – like Bosch – benefiting from their own start-up cell. Deutsche Bahn has established the d.lab innovation laboratory to come up with new mobility concepts. It's in good company. 43 per cent of all mid-sized German companies are collaborating with a new business. A recent study by the Berlin consultancy etventure and the GfK market research organisation confirms the megatrend: companies that cooperate with new business founders are better prepared for the digital transformation. What do the big companies hope to get from such alliances? Executives from the 2,000 large German companies surveyed revealed they were looking for access to new technologies, faster innovation cycles and insights into the methods employed by start-up founders.

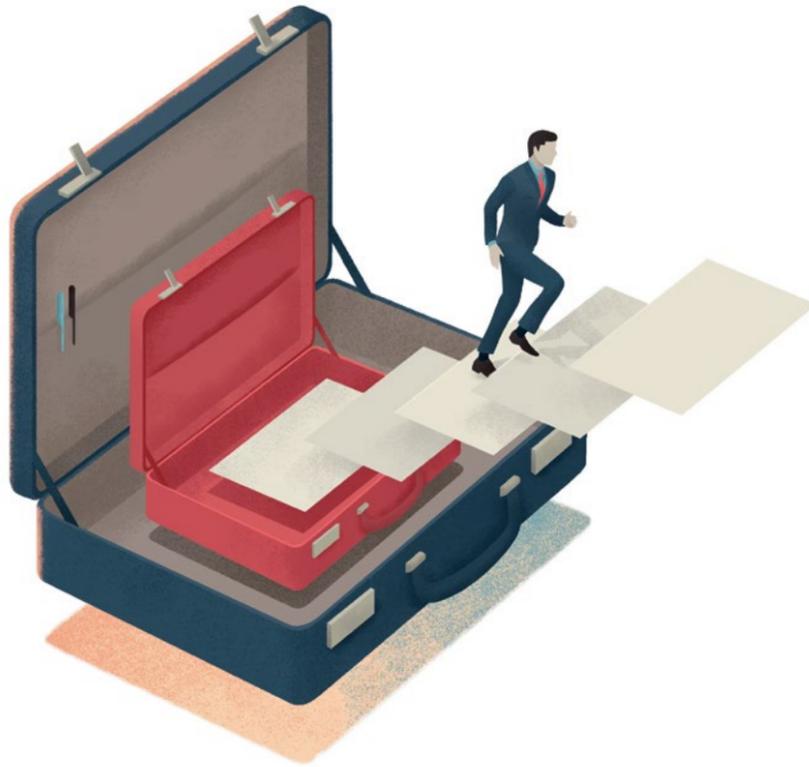
»We're seeing the world of industry becoming increasingly dynamic and complex,« explains Peter Guse, Head of the Bosch incubator with the fashionable moniker »Grow«. »That has escalated enormously over the last ten years. More and more products have to claim their space on the market in a shorter and shorter period of time. That's not easy for companies with rigid hierarchies, where organisational structures and processes have been developed over many years to bolster and secure the traditional core business. We're therefore increasingly reliant today on having a large number of experts working together under relatively simple structures and finding solutions as quickly as possible.«

In the corridors of Deepfield Robotics, which now employs 120 people globally, the other culture becomes apparent to the group's executives. They see interconnection rather than hierarchy, which means that communication happens quickly and laterally, cutting across slow, vertical structures. They see a flexible workplace model, under which employees – freed from the shackles of a »presence culture« – decide when and where they work. They observe a climate of openness among a team that works under one roof. There are no walls. Whatever's hanging on the pin boards is visible to everyone. They see how theory and practice is combined, with workbenches and desks located in the same

**THE CENTRAL DOCTRINE IS
FAST GROWTH. SUCCESS IS
MEASURED NOT BY REVENUE
BUT BY MARKET PENETRATION.**

building not that far from each other, and with members of staff constantly heading to or coming back from »reality checks« with customers. And they see a courage and a readiness to fail, coupled with the will to learn from mistakes. Sometimes failures lead to unexpected results: Christian Lasarczyk's team came up with the idea of a sensor-supported app for the asparagus harvest at the second attempt. They had originally intended to develop a harvesting robot for farmers. But the farmers were not prepared to buy an expensive machine they would only need ten weeks of each year.

However, it remains to be seen whether Bosch, the parent company, is prepared to apply one of its subsidiary's most important doctrines and thereby help its seven start-up developments to grow even more strongly. This central philosophy is rapid growth. It goes against the grain at German companies because under this philosophy, success is not measured by revenue as is common, but rather by market share. To put it another way: before an app yields a profit, a significant amount of money must first be invested in its circulation so that no competitor can introduce a serious rival to the new product in the segment.



However, a new era dawned at some major companies a while ago. Daimler boss Dieter Zetsche announced at the end of last year that 20 per cent of its staff would in future work within a »swarm organisation«. What exactly does that entail? Staff working independently and free of rigid hierarchies are connected across departmental boundaries, making it easier to solve problems and implement ideas. »That is by no means limited to individual projects, it's a permanent state of affairs,« affirmed the Daimler Chairman.

The visionary Schloemer, who has advised major companies and built businesses of his own, believes that a significant degree of independence from the parent company is a critical factor. Innovation requires a distinct community that draws inspiration from exchanges with a diverse range of market players, that takes up shares in companies, or that takes over start-ups. With production cycles getting shorter, long meetings around the conference table will not help you reach the goal, says Schloemer, who aims to accelerate processes with his Factory project. »On our platform we bring together start-up founders with mid-sized companies, industrial businesses and DAX corporations so that they can engage in a constant dialogue – whether that's online or in our clubhouses.«

Factory now has more than a thousand members. The maverick revolutionaries of Generation Y are flocking to Berlin. A fertile habitat for Germany's entrepreneurial elite, you might think. But the established executives often still lack the courage to embrace this new world. The approach taken by many founders of first wanting to change the world with an invention and making money later still gives rise to irritation in many quarters. Rather than great epiphanies, Schloemer often experiences the opposite. »I still see a huge degree of ignorance and arrogance. Executives often do not interact with young entrepreneurs as equals, they make it clear that they are the ones calling the shots and making the rules. To put it bluntly: too little entrepreneurship, too much management.«

The cultural change in the world of business is well underway but it is by no means a sure-fire success everywhere. Which is actually a shame because the time is ripe for the digital offensive – especially in Germany. While it has mainly been young companies working on the optimisation of e-commerce models that have succeeded over the last few years, traditional engineering is now waiting for its digital revolution. The »Internet of Things«, i.e. intelligently connected devices, could be a golden opportunity for Germany, as an engineering nation, to take on a leading role. But it will only happen if they move quickly. The asparagus app could be the first of many successes. Interest from farmers in the smart farming application grew rapidly after the first harvest season.

Martin Häusler

Amazon is a great example of this. The Internet retailer, which started as a small start-up but which now has an annual turnover of \$100 billion, has hardly made a profit over the last 20 years. However, the company has a monopoly and could consequently rake in billions in profits in the near future. »We've been victims of tradition and of the belief that a company is only worth as much as it makes. In the end, it's often been the Americans who have invested,« says start-up expert Udo Schloemer. »That's a cultural issue. We have to combine German virtues such as absolute commitment to quality, with the American culture of failure and growth. That's the key.«

Schloemer is the founder and managing director of Factory. In the heart of Berlin he operates an ever-growing start-up campus for business revolutionaries big and small, and puts on events that facilitate network-building. He is keen to foster the digitisation of the German economy as a counterbalance to Silicon Valley. However, Schloemer is sceptical about the way the large multinationals are establishing their own start-up teams. »It's impossible to push through innovation within an existing structure because there are too many people who – based on their experience – believe that many things simply can't be done. And the executives don't have the key to digitisation, and therefore to innovation, because they didn't grow up with it.«

Most in-house incubators cling too closely to the existing management, which often then steps in too soon. Mistakes aren't allowed. Bosch's asparagus adventure is certainly a positive example, but an exception rather than the rule. »The current management boards wouldn't even give the founders of Siemens, Daimler or Bosch the money – they'd think they were crazy. For over a century, the main focus has been on optimising existing things, rather than questioning them.«

ON THE MOVE

Bag it!

BYE-BYE, BRIEFCASE! NOWADAYS THERE ARE MORE STYLISH WAYS OF CARRYING AROUND YOUR LAPTOP.

1 | LIGHTWEIGHT

A real Galactic Legioner – robust, durable and waterproof. Ideal for everyday use, whether in the office or on the move. €180. royalrepublig.com



1

2 | THE ULTIMATE IN PRACTICALITY

Perfect for businesspeople, the Grant backpack is spacious, comfortable and has compartments for your laptop and tablet. €100. deuter.com



2



3

3 | A SPLASH OF COLOUR

The sleek Rider backpack is made of real leather and waterproof canvas with a coloured trim. €145. forbesandlewis.com



4



5



6

4 | ITALIAN SOPHISTICATION

In top-quality leather and eco-friendly, this bag is made using an age-old tanning process. Made in Italy: Sartoria, €550. piquadro.com



7



8



9

5 | GOOD FOR THE PLANET

The Alpha Small is a big hit. Made of recycled PET bottles, it comes in a range of colours. €180. aep-studio.com

6 | BACK TO SCHOOL

A sophisticated, modern take on the traditional school bag. The Ficartable features a magnetic closure and carabiners. €40. celio.com

7 | SIMPLY GREAT

Handmade by a family firm in Naples. Leather Backpack Regular. €300. souve.net

8 | BEAUTIFULLY VERSATILE

The Vienna is made of tough cotton canvas with a lightly waxed finish for a water-repellent effect. €120. souve.net

9 | WELL DONE

The Backpack Fine is irresistible with its natural look and clean lines. It also comes in blue and black. €300. offermande

ILLUSTRATION: ANDREA DE SANTIS; PHOTOS: PR (9)

Cocktail hour

WHO HASN'T IMAGINED WHILING AWAY RELAXED EVENINGS IN COOL BARS? NOW IT'S PART OF OUR LIFESTYLE.



[1]



[2]



[3]

From north to south – every year the upmarket bar scene finds new inspiration.

The philosopher Montesquieu was convinced that people in northern regions were more morally upright than people who lived in the south. Could it be that the people of Munich are so carefree because the sunshine lifts their spirits? And are we as cool as our weather?

If so, it probably also applies to the upmarket bar scene. »As soon as the first rays of sunshine chase away the winter we put the tables outside and encourage everyone to emulate the Italian lifestyle by relaxing outdoors,« says Kostas Ignatiadis of Schumann's in Munich. This bar is not just a bar, but a living room that has gained something of a cult status, all thanks to its owner, Charles Schumann. His passion for bar culture has been passed on to his team, who in turn share it with their guests every second of every day.

Schumann's also acts as a seismograph that detects the preferences of a clientele that is always on the lookout for something

new – how about Basil Smash with gin, or Moscow Mule? Mezcal is currently highly popular, a Mexican spirit made from the flesh of agaves with a smoky flavour. »People are looking for sophisticated mezcal drinks, along with saké cocktails and every version of classic Campari,« says Ignatiadis.

Ask around the Hamburg bar scene and you'll soon hear about exciting new talents like Bettina Kupsa, who learnt her trade at Le Lion and now runs the Chug Club. She has Campari in her blood and relishes serving her guests a Chepari or Rubina, two stylish Campari-based cocktails.

So when it comes to trends, north and south seem to be in sync. In between the two we find the elegant bars of Frankfurt, including Gekkos Bar at the Hilton. This is a bar that is not solely devoted to the contemporary zeitgeist but also honours 200 years of bar culture by serving its guests classic cocktails. Quality absinthe is also on the menu – the latest trends can never be totally ignored.

Setting the pace on the Hamburg bar scene: Austrian-born Betty Kupsa at the bar of the Chug Club [1]. A Chepari [2] is a mix of Campari and cherry tequila. The classy surroundings of Gekkos Bar in Frankfurt [3].

OTHER BARS

Bar Tabacco [Munich], Schwarze Traube, Lebensstern and Bar Immertreu [Berlin], Die Rote Bar and Jimmys [Frankfurt], Boilerman, Le Lion [Hamburg]

PHOTOS: TIM GERDTS; PEPEFOTOGRAFIA; PR; ILLUSTRATION: SVEN KALKSCHMIDT

Online applications

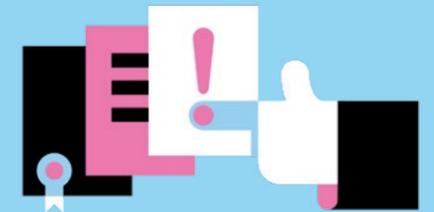
1 EMAIL OR ONLINE SYSTEM
You can send an email or fill in a form on the company's website.



2 GIVE YOURSELF ENOUGH TIME
When filling in an application form, make sure you have all the documents you need in a single folder. If you have to pause while you are completing the form – perhaps to go looking for a file – you may find yourself automatically logged out of the system.



3 REQUIRED DOCUMENTS
Make sure you provide everything that is required. As a minimum, this normally includes a cover letter, CV and references – just like traditional applications.



4 USE THE RIGHT FORMAT
It's best to send documents in PDF format – only send them in formats such as Word or Open Office if specifically requested to do so. Do not send compressed folders (ZIP files) unless requested to do so.

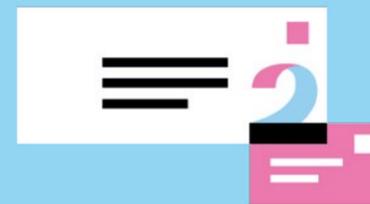


5 NAME THE FILES CORRECTLY
Give all the files a name and save them. It is best not to use umlauts, as these cause problems in some programmes. You can shorten your first name.



6 NOT TOO MANY EMAIL ATTACHMENTS
Save the cover letter, CV and references in a single PDF. Sending lots of different attachments creates more work for HR staff.

7 CREATE TWO VERSIONS
Application systems often require separate files, so it's also a good idea to prepare key documents as individual PDFs.



8 PREPARE YOUR COVER LETTER
Many online systems have fields where you can enter your cover letter and CV. Prepare your text so that it is easy to copy/paste it into the form.

9 RESPECT DATA LIMITS
Don't send mammoth files! Two to seven megabytes is normal. Online systems usually clearly state the maximum permitted data size. If sending documents by email, the total for all attachments should not exceed two megabytes.



Thanks to the Internet, it is quick and easy to apply for a new job or check out your value in the market. But be careful. Online applications certainly save you time and money, and half of all vacancies are now filled this way, but it's a good idea to familiarise yourself with the company's application procedures in order to avoid making a mistake that could result in your application being discarded at first click. Most larger companies have their own jobs pages where applicants can fill in special online forms and upload their documents. They include fields for cover letters and

CVs, often combined with the option to move forwards and backwards while filling in the form. »If this isn't possible, you can log in under a false name and take screenshots of the various fields so that you can check how to fill them in correctly.« This is a useful tip from business advice service karrierebibel.de. It also makes sense to save all your entries in case there are questions about them at the interview. »If you're applying for several jobs at the same time it's easy to get confused. And that can be embarrassing.«

Now or never

RELAX, DINE, SLEEP – TEN PLACES THAT ARE WORTH A SPECIAL TRIP.



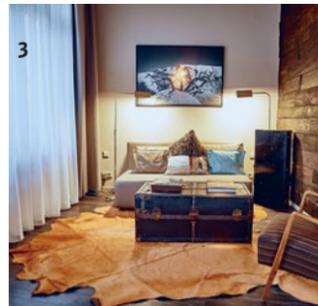
VABALI SPA [1]
Düsseldorf | After proving a big hit in Berlin, the Bali feeling is now coming to Düsseldorf with a 20,000-square-metre spa facility. On the shores of the Elbsee, the new Vabali Spa with its stunning lake views, ten saunas, two steam baths, a laconium and two pools is the perfect place for a short break with an oriental twist. An exclusive oasis of wellness [two hours for €21.50]. vabali.de/duesseldorf

THE BRIDGE BAR
Hamburg | Hamburg's new landmark comes with clinking ice cubes and aromatic flavours. The Elbphilharmonie has been waiting for just such a bar. At an altitude of 37 metres, it welcomes its patrons with breathtaking views over the port and city. westinhamburg.com

TIP



THE BARN [2]
Berlin | Berlin has been waiting a long time for the legendary Café Kranzler to wake up from its beauty sleep. It is now home to The Barn, one of the country's top coffee roasteries. Hand-brewed filter coffee is served with a 360-degree view of the Ku'damm. Specially made in the USA, the espresso machine is the first of its kind in Germany. thebarn.de



CHROME COTTAGE [3]
Berlin | Small but perfectly formed – the Chrome Cottage boutique hotel is close to the popular bars and restaurants of Revalerstraße in Berlin's Friedrichshain district. It is a convenient starting point for exploring the city, and a restful retreat at the end of the day. Accommodating up to six people, the rooms provide a haven of calm in the midst of the bustling city. Guests can check in and out at any time of day. chromehotels.com

RUBY LILLY
Munich | A lean luxury hotel. Great design and luxurious fittings in a small space. Every room comes with a tablet and the hotel's own city guide. ruby-hotels.com



BONECHINA BAR
Frankfurt | Partying in a historic setting. A hip new bar has opened in the Alt-Sachsenhausen district of Frankfurt. In place of a counter, a china elephant stands in the middle of the room (see photo) and acts as a bartender. Guests can top up their glasses with the tonic water that flows from its mouth. The two hosts are on hand to serve those who prefer not to mix their own drinks. They can choose from a select menu of classic drinks and a range of home-made, fragranced ice cubes – with everything from vetiver to sandalwood. bonechinabar.com



ROCK OUR KITCHEN [4]
Hamburg | Hamburg's latest pizza hotspot has opened close to the main station. The ROK serves pizzas that are a true taste explosion. How about smoked trout, tarragon and pear dressing, Keta caviar and fresh horseradish? Or perhaps you have a sweet tooth? Then discover pizza with custard, fruits of the forest and caramelised cane sugar! Lovers of salad and wine are also in the right place. And if you can't find what you want on the menu, you can simply assemble your own meal. rockourkitchen.com



MAURITZHOF [5]
Münster | The Mauritzhof in Münster has always set the pace when it comes to boutique hotels, but now it is starting a new chapter. Brimming with urban chic, it has opened its doors again after a major six-month refurbishment. Outside, its minimalist façade is a real eye-catcher, while inside guests are invited to relax in cosy armchairs in front of the open fire. With the recent addition of an extra floor, the hotel can now offer another 13 rooms, including a panorama suite. mauritzhof.de



GUT STEINBACH [6]
Reit im Winkel | A holiday amid apple trees, wild flowers, deer and birdsong. Sounds good? Gut Steinbach, a traditional hotel in Chiemgau, is adding a few chalets to its selection of rustic, romantic suites. Set in 50 hectares of private woodland on a high, sunny plateau between Kitzbühel and Salzburg, it is an idyllic place to enjoy the peace and quiet next to a natural pool. And the new Heimat restaurant is a refuge for people who love delicious food in cosy surroundings. gutsteinbach.de



HANDWERK [7]
Hanover | Hanover's Südstadt district is home to Handwerk, a new restaurant in the former premises of the Spiegel, a popular pub. The decor is sleek, with clean lines, lots of black and contrasting wood, and the kitchen is visible to diners. There is no menu. The staff, under head chef Thomas Wohlfeld from Tim Mälzer's Hamburg team, decides what to serve its guests after making the daily trip to the market. handwerk-hannover.com

PHOTOS: PR (6); MARTIN STRAUSS; STEVE HERUD

Nuremberg

A DELICIOUS BITE TO EAT? OR A GLASS OF WINE?
GREAT PLACES FOR A SHORT STOPOVER.



BITE TO EAT

Auguste [1] Handmade, organically certified burgers and other premium food. Every leaf of lettuce is grown locally. It is furnished with old tables and chairs that have been upcycled to create minor artworks in themselves. premium-junkfood.de
Barfüßer [2] Nuremberg bratwurst or traditional roast pork from Franconia – delicious treats await visitors to the Brauhaus at Hallplatz 2. In the vaulted cellars, diners eat next to brew kettles and the dark beer is served fresh from the keg. barfuesser-nuernberg.de

CHEERS!

Café Maximilian [3] This glass pavilion with window heating is situated close to the station. Café owner Max serves wines and beers from the region. And don't miss his famous wild bilberry ice cream made with fruit that he gathers himself.
Shamrock Irish Pub [4] Fancy a game of darts or table football? Or just sit back with a Guinness and watch the football on the big screen. The perfect place to relax, watch sport and make new friends. irishpub-nuernberg.de

MUST-SEE

Neues Museum Nuremberg [5] Anti-Pop is an impressive exhibition of Boris Lurie's works at the State Museum for Art and Design. The museum is also home to another must-see – a permanent exhibition of the world's second-largest collection of works by Gerhard Richter. nmn.de
DB Museum [6] The museum throws light on the history of rail travel, introducing visitors to the Adler – Germany's first steam train – and the world's very first railway. Children love the Kinderbahmland with its many interactive exhibits. dbmuseum.de

STRESS BUSTER

Hotel Novotel [7] Hop off the train and into the sauna! High above the roofs of Nuremberg, the hotel's spa opens at 2.00 pm and offers access to three saunas, a pool and fitness studio for just €22. After 6.30 p.m. the entry price falls to €13, and a massage is also very affordable. novotel.com
Sheraton Carlton Spa [8] Its location in the centre of Nuremberg guarantees amazing views of the city – even from the sauna! It comes with a huge roof terrace, steam room and whirlpool. Open to the public, from €13. carlton-spa.de

MUST-HAVE

Handwerkerhof [9] Walking through the Königsturm is like entering the Middle Ages. The half-timbered buildings house a goldsmiths, a traditional gingerbread maker and a toy shop selling antique tin toys. handwerkerhof.nuernberg.de
Walther König bookstore [10] Art, architecture and design are the focus of this well-stocked bookstore with attached design shop in the Neues Museum. buchhandlung-walther-koenig.de