



Messe München

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THE
MESSE
MÜNCHEN
MAGAZINE
01
2018

A REVOLUTION IN SPORT

People are pushing themselves to their limits. The sports industry is one of the beneficiaries and also a pioneer of new technologies

THE TASTE OF TOMORROW

City farms and
in-vitro burgers

MAN AND MACHINE

A summit meeting on the boundaries
of artificial intelligence

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DEAR READERS

»
The old-fashioned bicycle speedometer has been replaced by electronic fitness devices.
 «



2.0, 3.0, 4.0—in the past, these may have sounded like soccer results. But now they are used to indicate the progress we have made in automation and digitalization. These changes have also had an impact on the world of sport, where since time immemorial, the body has been its own seismograph and muscle power the main driving force.

The latest revolution in the world of sport can be described as “Sport 4.0” and includes surfboards with electric motors and intelligent running-shoe insoles. Wearable devices and smart textiles are now able to record sporting performance and physical data.

The old-fashioned bicycle speedometer has been replaced by electronic fitness devices. In our cover story, “A Revolution in Sport,” you can find out how physical exercise is changing in the era of digital and electronic sport.

And what will happen to our food in the future? In the article “The Taste of Tomorrow,” we go in search of an answer to this question and learn that food pioneers are developing high-tech solutions to solve the problem of world hunger and meet the demand for sustainability.

The third issue of the Messe München magazine covers several highly topical subjects,

including some from the world of trade fairs. As usual, we will be publishing more information relating to the topics in our magazine on social media channels. You’re welcome to contact me directly via my personal LinkedIn account.

KLAUS DITTRICH
 Chairman of the Management Board
 of Messe München



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From visiting a barber shop to thoroughly enjoying a cup of coffee or spending the night in a bank director's office: We have five ideas that will add the perfect finishing touch to a visit to Messe München. Guaranteed no veal sausages, the Oktoberfest or soccer

LEGAL NOTICE Published by Messe München GmbH, Aleksandra Solda-Zaccaro, Messegelände, 81823 Munich, Germany, Phone: +49 (0)89 949 -20720, www.messe-muenchen.de/magazine **Head of project management** Anita Kellermann **Project management** Ina Bethlehem **Editorial staff** Willi Bock (V.i.S.d.P.), Katarina Barić, Florian Severin, Karoline Amon, Klaus Mergel, Michael Moorstedt, Felicitas Wilke **Editorial consulting** Stefan Schmorte **Creative consulting** Felix Kempf **Art Director** Cordula Ann Rettenmaier **Photo editing & Art buying** Heike Heller **Final editing** Geoff Poulton, Michele Tilgner **Publishing company** TERRITORY Content to Results GmbH, Winzererstraße 47d, 80797 München, Tel. +49 (0)89 5434 9621-10, www.territory.de **Publishing Manager** Christian Brunschede **Editorial Director** Stefan Tillmann **Advertising** G+J Electronic Media Sales GmbH, Am Baumwall 11, 20459 Hamburg, Germany **Director Brand Sales** Jan-Eric Korte, Phone +49 (0)40 3703-5310, Telefax: +49 (0)40 3703-5734, E-mail: info@gujmedia.de; The current price list applies, more information at www.gujmedia.de; Ad Price List No. 1 of January 1.2017 **Information on ads** www.gujmedia.de **Production** Gruner + Jahr GmbH & Co KG, Am Baumwall 11, 20459 Hamburg, Germany **Director** Heiko Belitz, Phone +49 (40) 37 03-0, Fax +49 (0)40 3703-60 00, E-mail: info@gujmedia.de **Lithography** Royal Media, München **Printing** raff media group GmbH **Copyrights** The rights of this magazine and all of the contents, images, drafts, plans and presentations of ideas contained therein are protected by copyright. With the exception of the legally permitted cases, any use, including reprinting, without the written consent of the publisher is punishable. The editors and the publisher are not liable for any unsolicited manuscripts and artwork sent to us. **Contact** presse@messe-muenchen.de

ROBOTICS



MY ROBOT COMPANION

Aiibo holds out his paw, fetches a bone, and even goes independently to the charging station. At the Consumer Electronics Show in Las Vegas in 2018, Sony presented a new version of its robotic dog. Aibo is a self-learning companion that interacts emotionally with its owner. All over the world, work is underway to develop genuine robot personalities. The artificial creatures have names like NAO, Pepper, and Bobby. They also have voices and their facial expressions respond to emotions. Social robotics could be one solution to the problem of providing individual home care for elderly and vulnerable people. "The robots will be soft and fluffy like pets. People can put the robots on their laps or take them to bed," predicts trend researcher Birgit Gebhardt. Sony's Aibo does not yet have any fur and is not always obedient. He obviously just needs to grow up.

SOCIAL ROBOTS

Service robotics was one of the themes of the last Automatica (June 19–22, 2018), the leading fair for smart automation and robotics.

RETAIL



POPPING UP ALL OVER

Suddenly, they're there and then they disappear again in a flash: pop-up stores. Just for a few days, retailers put their goods on show in empty industrial buildings or store premises using the available fixtures and fittings. As long ago as 2004, the fashion label Comme des Garçons displayed its high-quality clothing on the heating pipes of a former library in Berlin. The short-term sales concept has since become part of the marketing strategies of other companies, such as Louis Vuitton, Prada, and Walmart. The costs of rental and fittings in the pop-ups are trivial compared with expensive flagship stores in city-center pedestrian zones. This makes the must-have factor even more important. Fashion-conscious consumers find their way to industrial parks to be in the right place at the right time to buy designer sneakers. News about the latest pop-ups spreads quickly by word of mouth or on social media. Or the customers go climbing past by chance, as was the case with the Cliffside Shop on a rock face in the Eldorado Canyon in Colorado. At the beginning of August last year, a 22-square-foot wooden crate hung over the abyss for 24 hours. Inside were two sales assistants selling weatherproof clothing.

INDUSTRY



PRINT IT YOURSELF

A house that can be built in 24 hours. It sounds impossible, but it is a reality. The nonprofit organization New Story from Silicon Valley is building 100 homes for disadvantaged people in El Salvador. The houses will be constructed at high speed because the concrete walls are produced by a 3D printer. 3D printing technology is in the process of revolutionizing industrial production. 3D printers can produce structures made from steel, concrete, and plastic that have been designed using a software package. The strategy experts from PricewaterhouseCoopers (PwC) are forecasting a global market volume of 22.6 billion euros for printed products across all areas of industry by 2030.

At the moment, the printers are producing prototypes. "In future it is conceivable that manufacturers will themselves print individual components that they only need in small quantities," says PwC strategist Christian Foltz. Production on site and on demand is also of interest to consumers. Printers for use at home are already available for only a few hundred euros, allowing people to print jewelry, eggcups, or even a printer themselves.

ELECTRIC MOBILITY



MESSE MÜNCHEN'S ELECTRIC VEHICLES

The air quality in our cities is poor, with high concentrations of particulate matter and nitrogen oxide. Noise is also a problem. Driving bans are hanging like the sword of Damocles over many German cities. This is where electric vehicles can play an important role. Traffic in our cities must in future be clean, sustainable, and efficient. Messe München is setting sustainable standards for everyday electric mobility. "We want to lead the way when it comes to reducing our environmental impact and protecting the climate," explains CEO Klaus Dittrich. A network of charging stations for electric vehicles was installed at the exhibition center at the beginning of the year. These can be used free of charge by exhibitors, visitors, and employees of Messe München. More than 50 charging stations have been provided. There is a "supercharger" for fast charging by the main entrance and many charging points in the Parkhaus West. If necessary, mobile charging stations will be made available in the outdoor parking lots. Customers who arrive in an electric car can charge it at no cost during the day and return home in the evening with a fully charged battery. The electricity supplied by the charging stations comes from the photovoltaic system on the roofs of the Messe München buildings, which means that it is 100 percent renewable. With more than 50 charging points, Messe München is the second-largest provider in the region, after Stadtwerke München, the city's utility company.

Messe München is also putting the emphasis on electric transport in its fleet of company vehicles. First of all, a BMW i3 was made available for all employees to use on business trips. Successful tests of the StreetScooter electric van developed by the Deutsche Post DHL Group have been carried out for on-site use and the company will now gradually replace the vans on its premises with StreetScooters. Messe München is making its transport solutions electric.

THE WORLD OF WORK



SMART EMPLOYEES WANTED

The engineer doesn't know what to do next, so the meteorologist takes over. This is a recent trend in the automotive industry. As cars become increasingly autonomous and more connected with their surroundings, the industry urgently needs more IT specialists. But staff with the appropriate training are hard to find. This is why car manufacturers are directing their attention toward skilled employees from outside the industry, such as meteorologists, who are familiar with collecting and processing large volumes of data. This skill will be essential for future applications, including autonomous driving. For example, BMW is currently urgently looking for new data experts. Over a period of just a few years, 2,000 specialists will be developing the software for a car that is due to go into production in 2021. There will probably be a meteorologist or two working on the programming.

ALL-TIME LOW

According to Germany's Federal Employment Agency, 186,800 positions in the fields of IT, natural science, engineering, and mathematics remained unfilled in 2017

A REVOLUTION IN SPORT

BY KLAUS MERGEL



From old-fashioned physical exercises to an intelligent running-shoe insole: More dramatic progress has been made in sport in recent decades than in almost any other area of society, and these developments have helped to shape our modern world

They look as exotic as the first mountain bikes and snowboards did in the early 1980s. And it still causes a sensation when a skateboarder with an electric board appears in an empty parking lot. Or when a surfer on a local lake powers through the curves using an electric motor, but no waves or wind. There is still only a niche market for the electric surfboards made by Bavarian company Waterwolf, while by contrast, Evolve, the electric skateboard market leader, has already sold 5,000 boards in Europe. They travel at a speed of up to 29 miles per hour and in some cases can even go off-road. They are not yet registered for road use, but that is probably only a question of time. It seems as if sport is once again ahead of society as a whole.

For many years, sport has been much more than a mere leisure pursuit. It is a benchmark for social change and for industrial innovation. This is truer now than it has ever been before. Sport allows people to test their limits and the goalposts are moving. Skateboards have become electric vehicles,

while in the endurance field, the marathon, once considered a tough discipline, has been joined by ultra and wilderness runs over distances of more than 60 miles. The sports industry is benefiting from all of this and becoming a pioneer in the field of new technologies. From intelligent textiles and electric mobility to digitalization, innovative trends are being tested in the sports sector by what is still an elite, wealthy target group and are then moving into the mass market.

Fitness and health are more important than ever. Physical activity, which was once considered a working-class preserve, now stands for success and achievement. Winston Churchill famously said “No sports,” but nowadays, Canada’s prime minister, Justin Trudeau, poses for photographs during his morning run. And Heiko Maas, the German foreign minister, revealed that he competes in triathlons as a way of demonstrating his political stamina. In the world of corporate management, too, the distinguished gentlemen who exuded an aura of prosperity and

TO THE POINT

The right equipment, the right performance: sport continues to develop. Some values, however—such as the two-hour point in a marathon—never seem to change.





GOING WITH THE FLOW

Surfing and skateboarding are long-established sports, yet they are also becoming further differentiated. Some boards are now propelled by an electric motor.



While work has become less and less physical over recent decades, the body has become valuable capital.

authority have become a thing of the past. Modern managers run marathons.

The character of sport itself has also changed. The physical exercises of the postwar years that called to mind military drills were replaced by the fun factor of the hedonistic 1980s and 1990s, but now sport has become a personal quest for meaning in extreme disciplines. People push themselves to their mental and physical limits, even on an amateur level. Marathons, once regarded as a discipline for a few endurance specialists, have growing numbers of participants of every age. The organizers of the Munich marathon are expecting 20,000 runners to take part in 2018.

The highest mountains also belong to everyone. In the past, they were the preserve of great mountaineers such as Hans Kammerlander and Reinhold Messner, but now almost anyone can climb them, thanks to specialist travel companies that organize trips to Mount Kilimanjaro, Mount McKinley, and Mount Ararat, for example. They make mountain climbing possible even for people with a visual impairment. Every year, around 400 mountaineers reach the summit of Mount Everest. A license to conquer the highest mountain in the world costs only 9,000 euros.

This is an extreme example, but anyone who wants to compete against themselves does not have to travel to Nepal. These days, many men between the ages of 40 and 50 have a long-distance triathlon on their bucket list. Pushing yourself to your limit or achieving a personal best: This approach to sport is quite different from the 1970s, when Germans were happy with fitness trails and ski gymnastics in front of the television with Rosi Mittermaier and Christian Neureuther.

While work has become less and less physical over recent decades, the body has

become valuable capital. Simply staying fit is no longer enough. The aim is to improve your performance. It began with jogging, gyms, and aerobics. Today, the focus is on self-improvement, and one's inner approach to life plays a part in this. Today's social trends, which include the search for meaning and gamification, environmental awareness and mobility, individualization and the event culture, may seem contradictory. But they all promote an interest in sport, and sport in turn reinforces the trends.

Electric mobility is just one example. While electric cars are still a new phenomenon on German roads, sport has made greater progress in this area. Alongside the boom in electric bikes—600,000 were sold in Germany in 2016 alone—electric power is becoming increasingly important in sports and games. There are already three German manufacturers of electric surfboards, which use a propeller motor or a turbine to transport you across the water. At ISPO 2018, the exhibition for the sports industry, one company put on show a SUP board (stand-up paddleboard) with an electric motor. But not only that. It also has a photovoltaic system to give you full autonomy. Also on display at the fair were e-scooters, the Onewheel motorized off-road skateboard, which has been lauded by the press as the “latest sensation from the land of unlimited opportunities” (bergwelten.com), and electric skateboards from many other manufacturers. “Since we first came to the event in 2012, we have been joined by around 30 competitors,” says Evolve CEO Jens Haffke.

Sport has become more differentiated. On the one hand, there is elite sport, which has an enormous market value and huge sponsorship contracts. And then there is extreme sport, which is always chasing after new records and telling new stories. Like that

of the Spaniard Kilian Jornet, son of a mountain guide in the Pyrenees and star of the ultra running scene. He won the Ultra Trail du Mont Blanc, a 104-mile ultra marathon with an altitude difference of nearly 30,000 feet, three times before he climbed Everest in 2017. On May 20, he set off at 10 pm local time from the traditional base camp near the historic Rongbuk Monastery and reached the summit of the highest mountain on earth, which is 28,029 feet high, 26 hours later, at midnight, without oxygen or fixed ropes.

Or the South African Mike Horn, who journeyed around the equator by hang glider, paraglider, sailboat, and kayak and circumnavigated the Arctic Circle on foot and on skis. The story of Slovenian cyclist Jure Robic is a tragic one. He won the nearly 3,000-mile Race Across America five times before being killed during a training session.

On the other hand, there is mass sport, which meets the need for individuality and independence, together with the age-old longing for a sense of community. The slogan of Waterwolf, the Bavarian manufacturer of electric surfboards, is “Make your own wave.” The technology makes it possible.

The sense of community, for example in team sports, is still the most important argument in favor of mass sport. In 2017, 23.79 million Germans were members of a sports club. That's not only almost 30 percent of the population, but also half a million more than in 1999.

Thomas Alkemeyer, a sports psychologist at the University of Oldenburg, does not believe that individual and team sports are “in competition with one another.” He says: “Individuality is undoubtedly a feature of the modern age,” but, he explains, “individualization is primarily taking place in our cities.”

In the country, the village soccer club is still the most important way of bringing local people together, alongside the volunteer



Tobias Gröber,
ISPO exhibition
group director

ISPO DIGITIZE

FIT FOR THE FUTURE

**The next generation of athletes:
ISPO Digitize, held for the first time in June,
will focus exclusively on digitalization**

The world of work, mobility, and media usage: We have known for some time that our future is digital. This also applies to the sports industry and all the businesses associated with it. It primarily affects manufacturers of sports goods and clothing and sports retailers, but also travel companies, ski-lift operators, and competition organizers. Everywhere, digital tools are changing the way in which the different players in the industry interact, in particular with customers.

ISPO Munich has long since transformed itself from an international sports fair into a think tank of the future for fitness and sports goods. In order to fulfill this role even more effectively, a new format of the event will be launched in the summer of 2018: the ISPO Digitize.

The subject of online shopping is one that bricks-and-mortar retailers are confronted with on a daily basis. Around 36 percent of people who take part in sport buy shoes, clothing, and sports equipment over the Internet ("ISPO Sports Evolution Report 2017"). Surprisingly, the proportion of people who find out about products in stores and then buy them online is only six percent. In the reverse case, the figure is 32 percent. Despite the complaints from retailers, they do have an opportunity if they position themselves correctly and respond to customers' growing needs.

Companies must prepare themselves to make efficient use of the potential for growth presented by the digital transformation. ISPO Munich 2018 gave a foretaste of this. "The ISPO Digitize area was a kick-off for our ISPO Digitize at the end of June," says Tobias Gröber, ISPO exhibition group director. The event has found itself some prominent partners. adidas, Lectra, fourscore, and Sportmas put on show new concepts, technologies,

and presentations over an area of around 10,000 square feet in January.

The eye-catching exhibits in the area included the 3D printer from the adidas Speedfactory, which created a completely new link to the retail sector; the video and scanning carpet analyses from Sportmas showing the movements of customers when buying at the point of sale; and the software solutions of Lectra, which allowed customers to create their own designs on the computer.

What will the ISPO Digitize involve? The organizers will be bringing together a number of prominent experts who will share their digital expertise with visitors over the two-day period. This will help the attendees to bring about a digital transformation in their own companies. Workshops, round-table discussions, and presentations will provide valuable information about the future of the industry.

The ISPO website has a Digital Readiness Check which allows anyone to assess their company's digitalization status. Everyone should make the most of this opportunity, because the status information and the deficits identified in the check will make it easier to resolve problems. At the same time, the participants will be helping to determine the content of the ISPO

Digitize, because the overall results will be incorporated into the planning process for the event.

ISPO DIGITIZE

is a new event format devoted to the digital future of the sports industry. From the very beginning, ISPO will be part of this digital transition. June 28–29, 2018, ICM – International Congress Center in Munich. Find out more at www.ispo.com

fire service, but more and more people are living in cities. This leads to a deep-felt need to take part in sport as a counterbalance to work. The consequence is that sports that previously took place primarily in a natural environment have developed urban variants. City canals are used for kayaking and stand-up paddleboarding, buildings for climbing, and parking lots for e-skateboarding. Even skiing is possible in cities. Although indoor snow centers are few and far between in Germany—they can be found in only six locations—in the flatter landscape of the Netherlands, there are already around 50. Dry ski slopes, which consist of an endless band made of mats, manage without snow at all and can fit into an area of 750 square feet.

But this type of technology is analog and now almost outdated. One striking feature of ISPO 2018 was that sports articles are becoming smarter from one year to the next. They allow you to use your body as effectively as possible, reduce the risk of injury, and increase the efficiency of physical activity. This area of the exhibition is known as "Wearables and Devices," in other words, aids to help sportspeople. The "ISPO" Sports Evolution Report 2017 shows that 61 percent of people who take part in sport have a device of this kind, while 47 percent of people who are not active also own one.

With the technical support of a smartwatch and a fitness tracker, amateur sportspeople can become experts. By accurately measuring and monitoring your own performance, you can produce perfect training plans. You can identify when you need new incentives and when some recovery time is required. Sequences of movements can be improved, for example using a golf club with sensors. This makes it easy for anyone to optimize their physical performance.

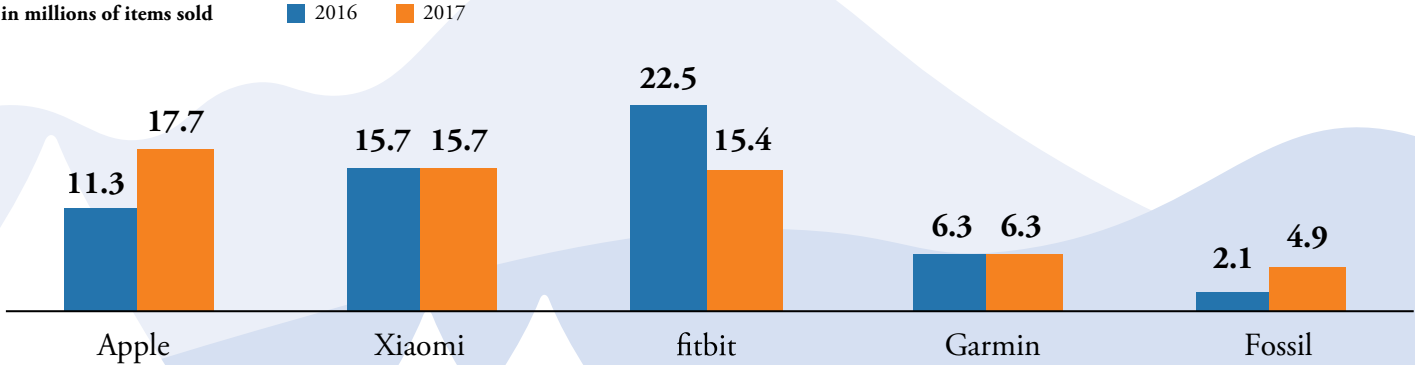
In 2016, more than 150 million digital training aids of this kind were sold worldwide. Heart rate monitors, which have been on the market for 35 years, are still the most common type of device. But as well as mea-

► Continues on page 14

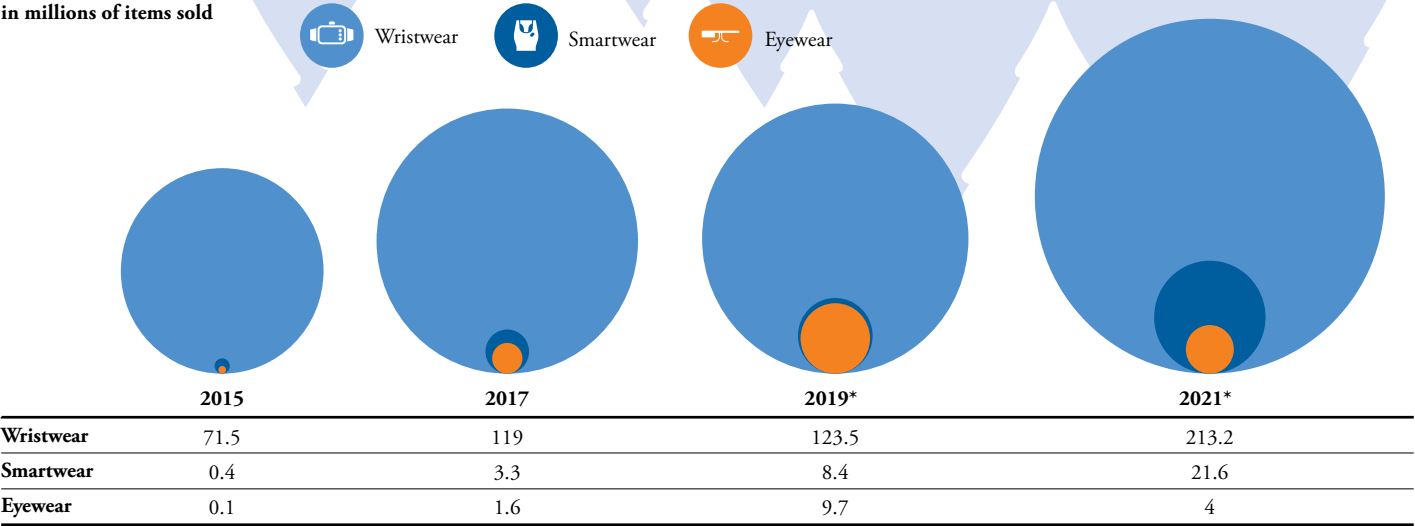
SPORT 4.0

Old-fashioned physical exercise routines and fitness trails have been replaced by the man-machine. Our bodies have become capital to be exploited and the sports industry is setting the pace. Higher, faster, further. It's a genuine growth business. This illustration shows a world on the move.

TOP COMPANIES IN THE WEARABLES MARKET



THE FUTURE OF WEARABLES UP TO 2021



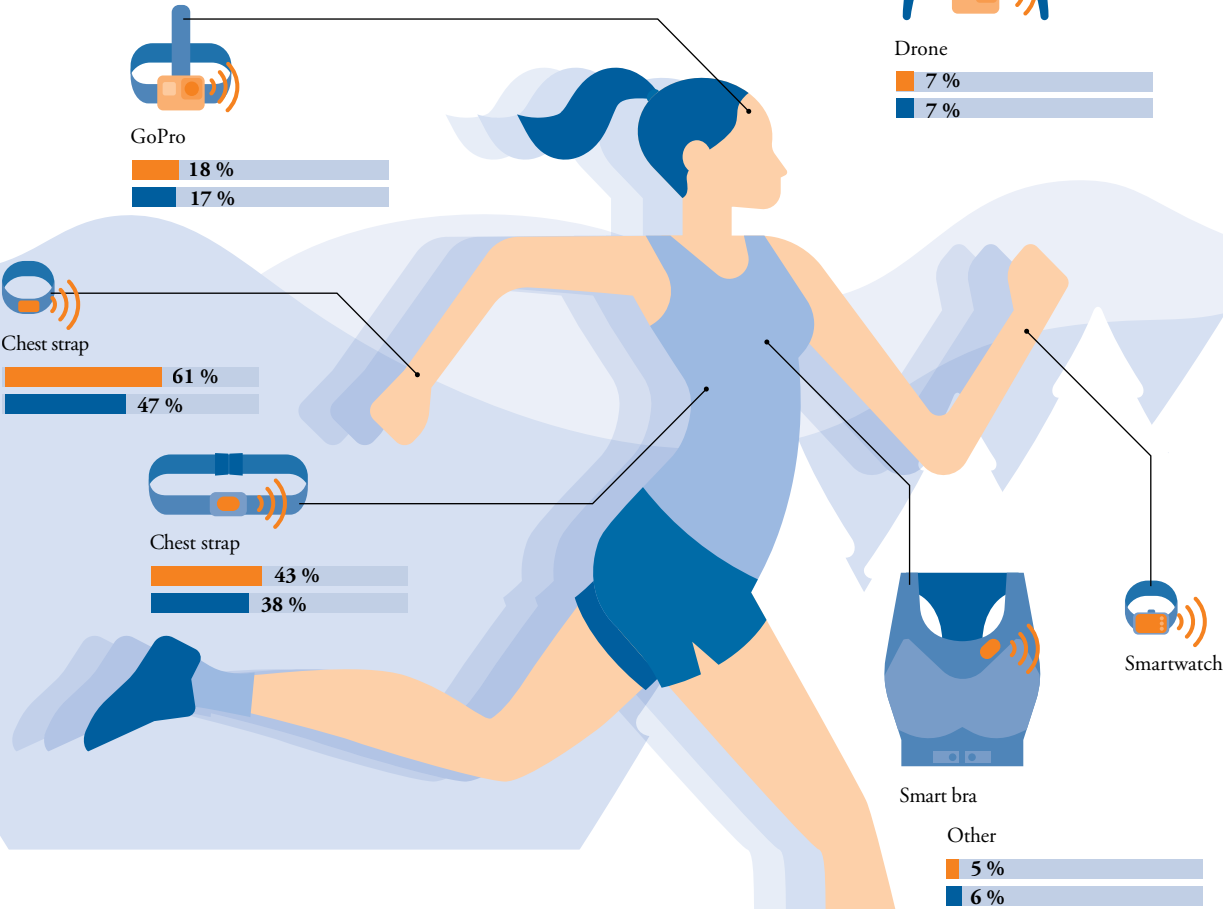
*Forecast

28 Resting heart rate of Spanish former professional cyclist Miguel Induráin during his competitive career. Life-threatening for those who are unfit.

INTEREST IN ELECTRONIC DEVICES*

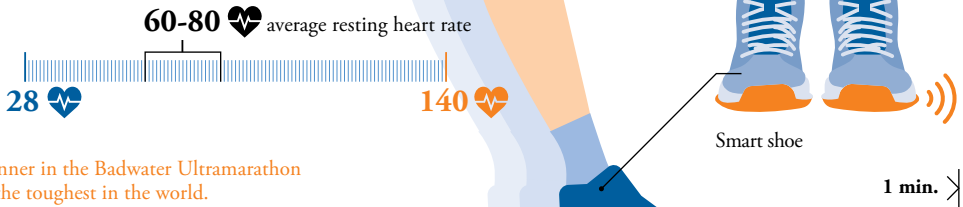
take part in sport do not take part in sport

*In Germany, Austria and Switzerland in 2016



HEART RATE PER MINUTE

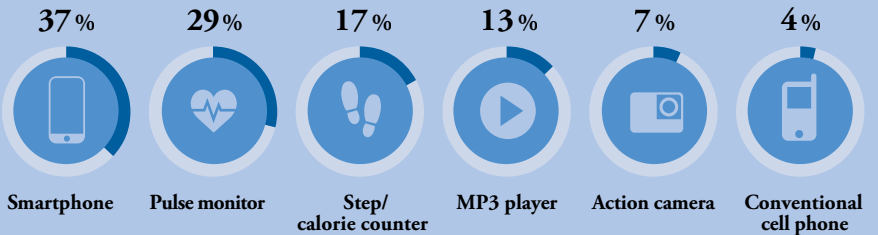
The fitter the person, the slower their heart beats, because it can use more power to pump the blood.



DO YOU USE ELECTRONIC DEVICES FOR SPORT?

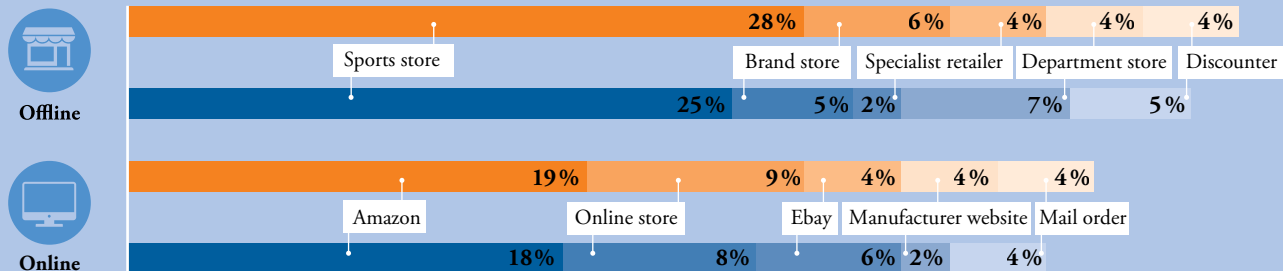


IF SO, WHICH?



WHERE DID YOU MOST RECENTLY BUY A DEVICE?

take part in sport do not take part in sport



ON A HIGH

With five million members, the German Gymnastic Federation is, after the Football Association, the second-largest sports club in Germany. But gymnastics today has little to do with the sport as it was envisaged by the father of gymnastics, Friedrich Jahn.



» *Sports laboratories have always worked toward improving physical performance and have tried out technologies that would have been disregarded in other fields.*

«

THOMAS ALKEMEYER, SPORTS PSYCHOLOGIST

asuring your heart beat, they offer a number of other features and no longer require an irritating chest strap.

The intelligent insole produced by French manufacturer Digitsole can provide interesting performance data. This includes the number of steps, calorie consumption, and distance covered for runners and efficiency and riding style for cyclists. All the data is sent via Bluetooth to an end device. The insole also includes a thermostat that allows for individually controlled heating.

Digitalization has also brought a number of benefits for indoor sports. Kettler, which has an annual turnover of around 145 million euros and is far from being a start-up, has turned the exercise bike into a virtual experience. In the past, grinding away on a clunky bike of this kind was not a particularly pleasant experience. Today's indoor bikes from the "Racer" range are the equivalent of modern road bikes. They are almost silent. In addition, Kettler's own Kettmaps app guides riders on a tablet through a tour of the Pyrenees or up the legendary L'Alpe d'Huez stage. Cyclists can upload their own videos of routes and measure themselves against other riders. It goes without saying that the app is also available for treadmills and rowing machines.

You don't even need an exercise bike. Instead, Zwift software is very popular with cyclists. Using the smart turbo trainer, which has pedaling frequency and speed sensors, you can take part in virtual races with friends at any time of the day or night. Gamification comes to performance sport.

The sports industry picks up on all the latest trends and this is by no means a new phenomenon. For example, the studded soccer shoe developed by Adi Dassler is still seen as the secret star of the "Miracle of Bern," the German soccer team's victory in the World Cup nearly 70 years ago. The sports sector is

also introducing trendsetting innovations in the field of functional clothing with membrane materials that have been developed to meet a need. Fabrics for everyday clothes must look good and wear well. In sport, the combination of sweat and cold outdoor temperatures brings quite different requirements.

The sports psychologist Thomas Alkemyer goes one step further. "Sports laboratories have always worked toward improving physical performance and have tried out technologies that would have been disregarded in other fields." On the other hand, we live in an "age of breathtaking innovation." "The development cycles are becoming shorter," says the researcher, "which is probably why this is so noticeable."

It's a different playing field. Products that in other areas of life would still be undergoing testing and overcoming obstacles have already proved their value in the sports world. This is true of electric mobility. "Our customers buy the products for use in sport and discover that they're a great way of getting around. It's more difficult to find that out about a car which weighs a couple of tons and is significantly more expensive," says Evolve CEO Haffke.

E-skateboards are not yet allowed on German roads, because it isn't possible to insure them. But the government has committed to promoting electric transport. In 2016, the German parliament called on the government to introduce the necessary legislation. Haffke is convinced that "they will be made legal, probably with a top speed of 25 kilometers [16 mph] per hour. The government doesn't want to turn people into criminals." These small devices would be an easy way of introducing electric transport onto Germany's roads.

Although our city streets are still full of cars and not e-skateboards, the boards have played a role in sport for some years as part

of a competitive discipline. The annual Dirt Track championship has been held every year since 2014 in the German town of Hassloch. There is even a world cup competition.

Once again, a sporting innovation has developed into a completely new type of sport, in the same way as the mountain bike, which came to Germany from the USA in the 1980s. Mountain biking has been an Olympic sport since 1996. Another similar phenomenon is the snowboard, which is now a familiar feature on the ski slopes. SUP is a relatively new development. The inflatable SUP board, which can be deflated and easily transported in a car, has led many people to move away from bulky windsurfing boards.

The question is, what makes different types of sports popular? In cycle racing, which was already popular before Jan Ullrich won the Tour de France in 1997, the trend has survived the downfall of the star and has developed further into a mass sport. For example, there are now cyclocross and gravel bikes, which are similar to earlier off-road models. Technology plays a major role in this area, too. Gear-shifting and brake systems are becoming lighter and more accurate, while carbon has long since replaced aluminum as the most popular material for frames.

However, it is important for a new sport to prove itself. Not all trends are long-lasting. One example is longboards, the cool skateboards that became a mainstream phenomenon. They disappeared after only two years or so. Rollerblades were hugely popular only a few years ago, with "blade nights" involving thousands of skaters bringing cities to a standstill on a regular basis. The skates are now stuffed into the back of cupboards. However, it is in the large cities that the new trends develop. Stand-up paddleboarding, previously seen only on lakes and rivers, is becoming popular in Paris, Berlin, and Hamburg. In Berlin, you can rent a board and paddle down the Spree River. There are rental centers all

► Continues on page 19

AT ONE STROKE

In 2012, Samuel Groth was recorded as having the fastest serve in tennis, at 163 mph. The women's record is held by German player Sabine Lisicki, at 131 mph.



ONWARDS AND UPWARDS

Despite all the doping scandals surrounding it, cycling is an established sport that continues to evolve. Examples range from the electric bike for pensioners to the ultralight bicycle.



HEALTH

GENERATION
SOFA

A lower life expectancy is being predicted for the younger generation.
We look at their lack of exercise and how the problem can be resolved

The things that are making us ill look quite harmless. Some are made of wood, others of metal, many are upholstered. The culprits were originally designed to help us relax, by allowing us to put our behinds on them: We are talking about sofas.

"Sitting is a slow death," says sports scientist Gerhard Huber from the University of Heidelberg, whose presentation at ISPO 2018, the exhibition for the sports industry, aroused a great deal of interest among the audience. The health-related consequences of a lack of exercise only emerge over time: a negative energy balance, which leads to obesity, together with vascular diseases, impaired bone metabolism, and the inability to inhibit inflammation, which has an impact on a number of medical conditions.

Particularly alarming is the fact that this applies primarily to children and young people. Huber calls them "Generation S." The many hours they spend on their computers, in front of the television, on the way to school in "mom's taxi," sitting at their school desks, and bent over their smartphones on the way home all add up to a lack of physical activity. "Our sedentary lifestyle is the price of our progress," says Huber.

In his study, Huber investigated almost 4,400 children and young people between the ages of four and 20. The results show that they spend on average eight to 11 hours a day sitting down. Including in their spare time. In total that is almost 70 percent of their waking hours. "Unfortunately, what's happening on the screen is always more interesting than the real world," says Huber sadly.

Huber is not alone in warning of potential danger. Scientists are predicting that the younger generation in industrial countries, who have grown up with computers, smartphones, and tablets—digital

natives, in other words—will be the first generation whose life expectancy is likely to fall, despite the availability of better medical care. James Levine from the Mayo Clinic at Arizona State University has come up with a terrifying calculation: Every hour spent sitting reduces our life expectancy by two hours. By comparison, every cigarette reduces it by 11 minutes. It's not surprising that many researchers say "sitting is the new smoking."

Why is sitting so harmful? Because movement comes naturally to us. For millennia, a shortage of food forced people to walk and to hunt. They had to use muscle power to build shelters to protect themselves from the weather. It sounds like hard work, but it keeps you fit. It gets the heart and the circulation functioning, the internal organs and other parts of the body receive a good supply of blood, and the joints stay agile.

Huber recommends integrating activity into your everyday life. Climb the stairs instead of riding in the elevator. It takes a few minutes more, but it makes you fitter. Try cycling to school or work, which is an enjoyable activity. Doing a few exercises in the bathroom or in front of the television in the morning is better than nothing. It's also preferable to take a small amount of exercise regularly, instead of training for a long period and then feeling exhausted and demotivated.

This is an important issue that is now attracting more attention in the media and in society as a whole, including the sports industry. An increasingly large area has been devoted to health and fitness at ISPO over recent years and it now fills more than one building. Current trends in sport such as wearables, running, urban fitness, and body and mind appeal to far

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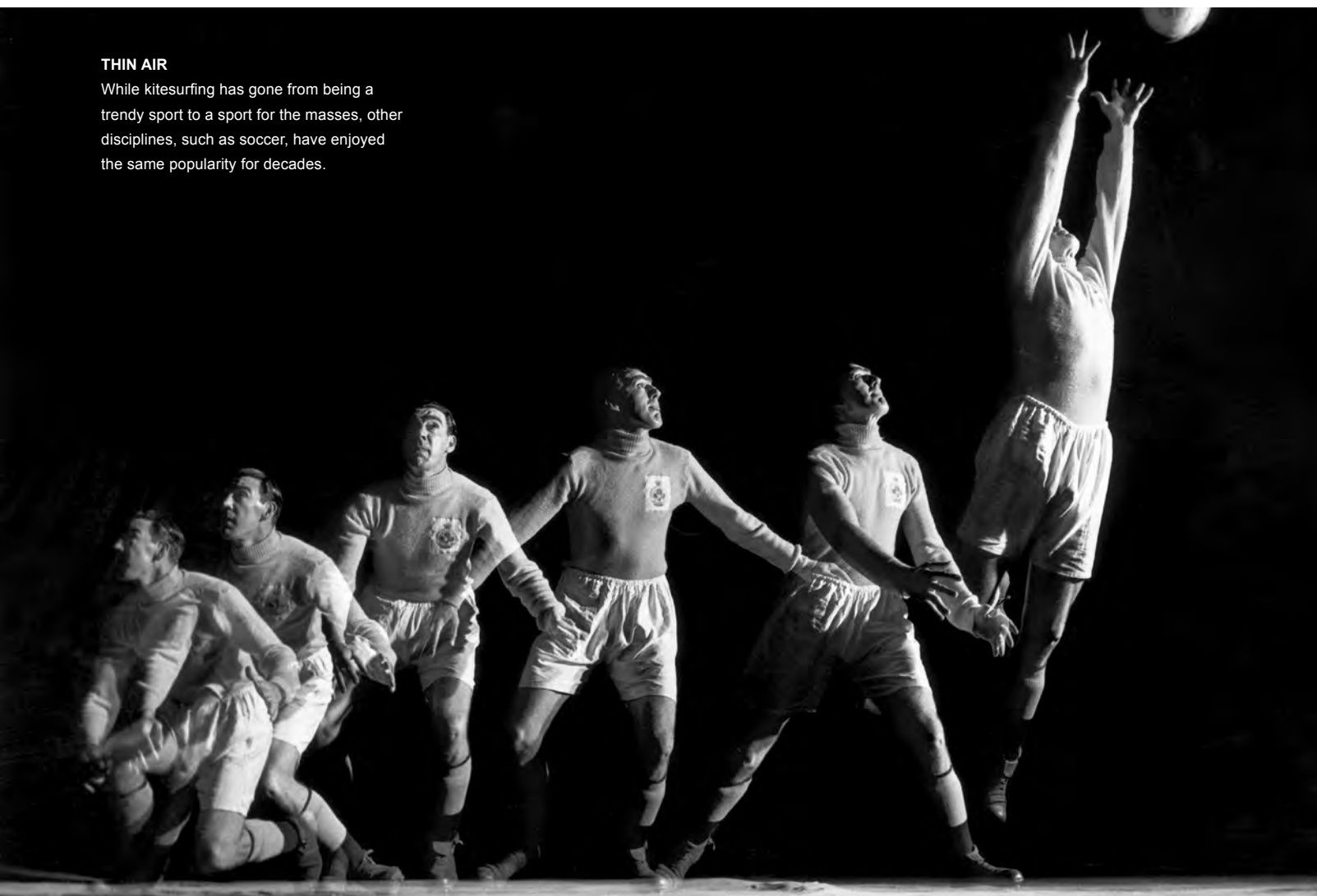
JAMES LEVINE, MAYO CLINIC

more visitors than we might have suspected in the past. People are putting an increasing emphasis on health to counteract the problems caused by sitting.



THIN AIR

While kitesurfing has gone from being a trendy sport to a sport for the masses, other disciplines, such as soccer, have enjoyed the same popularity for decades.



TRANQUILITY AND STRENGTH

Yoga is all about controlling your body—and it's about mindfulness. Sociologists talk about the 'internal effect' on the body.



Consumers are becoming more demanding. In the adidas Speedfactory in the German town of Ansbach, sports shoes are being produced with a 3D printing process.

along the river as far as Lake Wannsee. The Nautic SUP Paris Crossing is the largest international SUP competition, with around 600 participants. It is held in December every year in France's capital.

Many trends flourish without heroes or new equipment. Pilates and yoga are good examples. They have long since replaced the fitness movements of the 1980s, such as aerobics and bodybuilding. Gentle, healthy forms of exercise, which do not put any strain on the joints, are needed, not tough, impact-based training. Techniques from sports physiotherapy, including fascia training, for example, are moving into fitness courses. Alongside health considerations, diet and mindfulness are also growing in importance.

This is in part because sport has become a philosophy which involves a certain attitude, as well as physical fitness and fun. Sports psychologist Thomas Alkemeyer believes that people fall into two camps. In one, they focus on the appearance that can be achieved by taking part in sport: having a presentable body. "In the other, it is more about the internal effect and this is where mindfulness is more important." He believes that this phenomenon is limited to "the educated classes in an urban environment where there is a greater emphasis on physical activity and health."

Yoga, which 20 years ago was regarded with skepticism as a form of meditation performed by Indian gurus, is now an important means of relaxation for city dwellers. It is no longer purely the domain of women. Many world-class soccer players use yoga to stay supple. Yoga has also given rise to additional equipment that allows users to integrate it into their everyday lives. The yoga board made by Strobel & Walter, for example, introduces instability to work the deeper muscles. It is manufactured in Würzburg from local

beechwood and costs the not insubstantial sum of 369 euros. Intensity, awareness, and mindfulness: The demands are changing and resulting in new approaches, from reduced yoga to the extreme experience of an ultra run. Sustainability has become an important sales tool, in particular in the high-quality premium segment. Manufacturers of outdoor clothing are highlighting their corporate social and environmental responsibility, because this is where they see the demand. The developments in high-tech fibers in terms of weight reduction and breathability have to a certain extent reached their limits, but now wool has been rediscovered as a natural fiber and manufacturers are supporting small producers in development projects.

There are also considerable incentives for key German industries. The fibers used to make clothing have to be spun and woven and shoes need soles. All of these processes require machines. The machine manufacturer Desma, for example, is fully committed to Industry 4.0. Its computer-controlled, fully automated soling machines produce sports shoes in a number of countries using low-noise and low-emission processes. The company's goal is for its machines to produce shoes at short notice in a size, design, and color that match the individual requirements sent in by customers from their smartphones. Desma's experience shows that it is on the right track. In 2015 alone, it sold 428 injection molding machines with a value of around 80 million euros.

The most striking changes in financial terms involve the sportspeople. While Franz Beckenbauer earned 400 deutschmarks a month in his early years as a professional soccer player and Gerd Müller worked part-time in a furniture store at the start of his career, nowadays Cristiano Ronaldo is paid 21 million euros a year. The World Cup prize money has

doubled since 2002 to 330 million euros. FIFA funds this from the fees for broadcasting rights. In 2018, the two German television stations ARD and ZDF will pay 218 million euros for the rights to show World Cup games.

Sports goods manufacturers earn their money from both mass and elite sport. Nike's turnover in 2016 amounted to more than 30 billion euros. But consumers are becoming more demanding and expecting shorter development cycles and a perfect fit. In the adidas Speedfactory in the German town of Ansbach, sports shoes are being produced using a 3D printing process, a concept that aroused a great deal of interest at ISPO.

In the past, it took 18 months between the initial design and the shoe reaching the shelf in the store. In future, only a few hours will be needed. Customers can create the design at home on their computers. The shoes will no longer have to be transported for weeks by ship, causing significant environmental damage. At the same time, the digital transformation is creating new jobs in Germany, not for sewing machinists or shoemakers, but for IT specialists and customer service agents. adidas' competitor Nike is also investing in computer-aided design and 3D modeling.

And what about the retailers? If they do not move into the digital world, they will go under. But forecasts show that bricks-and-mortar retailers who offer a more individual customer service and a special shopping experience involving virtual reality will be the winners. Stores are already experimenting with interactive changing rooms, because not everyone wants to buy their running shoes online. Instead they value the expertise of the salesclerks at the point of sale. Because that's ultimately what it's all about. The shoes must not rub when you're running a marathon and must help you show what you can achieve. Even with the best material in the world, you can't run well with blisters on your feet. ■

MAN AND MACHINE

MODERATED BY: STEFAN SCHMORTTE AND FLORIAN SEVERIN
PHOTOS: ROBERT BREMBECK



One of our interviewees develops computers that can think, the other prefers to rely on his gut feeling in his profession. We spoke to Sandra Hirche, professor of information-oriented control, and Michelin-starred chef Tohru Nakamura about artificial intelligence, the virtues of man and machine—and why robots might also have a bad day

MM | Sandra Hirche, be honest. How often have you looked at your phone this morning?

HIRCHE | I've looked at it a lot. At least 20 times. It just shows that no one can manage without these devices anymore.

MM | Tohru Nakamura, which would you be more prepared to give up? Your smartphone or your gourmet thermometer for cooking the perfect roast?

NAKAMURA | Definitely the thermometer, because as a chef, I have to be able to tell how well a piece of meat is cooked in other ways. But I wouldn't want to give up my smartphone either. Nowadays, we're all slaves to our devices. It's always really noticeable when I deliberately put my phone away while I'm on vacation and enjoy the feeling of relaxation which that brings.

MM | The smartphone is a relatively harmless example of the way in which our world has become more high-tech. In Japan, where

your father comes from, Tohru, a service robot called Pepper has recently begun working as a waiter in a restaurant.

NAKAMURA | People in Japan are very open to new technologies and to robots. But I don't think a robot like this can replace the communication, the feel, and the conversation that, alongside the food, are essential features of a meal in a restaurant. In future, we need to ensure we preserve some areas that are not defined by machines.

MM | So that waiters continue to receive tips?

NAKAMURA | It would definitely only be a case of programming the service robot to accept tips, even though tipping isn't common practice in Japan. I just don't know whether smart machines would ever have the finesse to recommend the best wine to accompany a specific dish.

MM | The management consultants at McKinsey predict that half of all work will be carried out by robots by 2055. What will be left for people to do, Sandra?







THE MACHINE ARTIST

Sandra Hirche, born in 1974, is a renowned researcher in the fields of systems control and robotics. She concentrates on haptic assistance in robotics and on control systems in which man and machine interact. She began her academic career at the Technical University in Berlin. Following stints in Tokyo and Australia, she has been a professor of information-oriented control at the Technical University in Munich since 2013.

HIRCHE | It's clear that automation and artificial intelligence will bring about major changes in the world of work. We are developing these machines to make our lives more comfortable and ...

MM | ... in the end, we won't have anymore work to do?

HIRCHE | Not all work is enjoyable. We are not creating these machines to make people redundant, but to help with their decisions and work processes. That's my vision of artificial intelligence: machines as assistance systems.

MM | Robots are already a permanent feature of our factories. Now, they are starting to invade our offices as well, because they can do the jobs of fund managers and attorneys. Is this progress?

NAKAMURA | The question is, of course, how we will define work in future. It's not just to do with the tasks that we carry out. Work is all about self-esteem. *What do you do for a living?* is one of the first questions that we ask someone we are just getting to know. Work gives our lives meaning. We need to think

carefully about this so that we don't end up sitting in an empty room somewhere, twiddling our thumbs, and not knowing what to do. We are currently defining the boundaries of machines' activities in the future. We must not miss out on the opportunity to lay down these limits.

MM | Deep learning has enabled systems based on artificial intelligence to become even smarter. How do machines learn, Sandra?

HIRCHE | By training. For example, you show the system millions of images of cats and this makes it possible for the system to identify a cat in a picture. That's down to an algorithm which runs in the background and is nothing like a human brain. My young son only needs three examples to be able to distinguish between a dog and a cat, but the machine has to be shown millions of images. In principle, it simply reproduces the information it has been given in the past.

NAKAMURA | That is perhaps the key difference between people and machines. We learn something and despite that, we can decide to take a different course in future. We can choose to try something different and surprise a guest with a new culinary creation, for instance. Another example might be a painter who adopts an entirely different style from the one he used 30 years ago. I don't know whether machines will ever be able to do that. Whether they'll be able to say "No," to deliberately make a decision that conflicts with their experience, or to take a risk that could turn out to be a mistake.

HIRCHE | That's precisely where the major challenge lies: whether we will succeed in incorporating creativity into an algorithm in future. As things currently stand, machines are not able to match the achievements of human geniuses.

MM | But in the past, a machine was able to beat Garry Kasparov at chess and, more recently, even the current Go world champion. Go is a strategy game that's so complicated it makes chess look like an improved version of Ludo.

HIRCHE | That's true, but the machine ultimately won only as a result of a huge amount of computing power. Another example is the trailer for the science-fiction movie *Morgan* last year, which was the first trailer in the history of film to be developed and edited independently by a computer. But in this case, IBM's Watson

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*In future,
 we need
 to create areas
 that are
 not defined
 by machines.*
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TOHRU NAKAMURA



computer simply analyzed what had been successful and had gone down well with audiences in the past. That's creativity at a very low level. Lateral thinking, which allows humans to find inspiration in a wide variety of areas, is still very difficult for machines to replicate.

MM | But machines can work with absolute precision. That must be very important in your profession, Tohru?

NAKAMURA | Of course, we need clearly defined processes and rules to prepare food at our level. Everything must run smoothly. But in addition to all the technology that we use in top-level cuisine, team spirit is also very important. I find it very difficult to imagine a robot working alongside us and doing the same tasks. How can we create a team consisting of a person and a machine? Or from a more practical perspective, what should we do with Pepper, our service robot, on our team outing? Should we take it with us?

MM | It could at least go and get the car.

NAKAMURA | That's a good idea, but would we be able to accept Pepper as a member of our team? I think that the more intelligent these systems become, the more we need to ask ourselves how we intend to integrate them into society. Precision is all very well, but this is where the human factor, the ability to constantly question or be critical of oneself, to have a bad day, or to make a mistake, falls by the wayside.

MM | Are mistakes a positive thing?

NAKAMURA | Of course, mistakes should

never get as far as the guest in the restaurant. But mistakes can happen in top kitchens just as they can anywhere else. And then you get annoyed and do everything possible not to make the same mistake again.

MM | Do machines also get annoyed, Sandra?

HIRCHE | You can program a robot so that it constantly tries to receive praise. If that doesn't happen, the robot gets annoyed, not in a human way but in an algorithmic way. It gets a smack on the hand, so to speak, when it makes a mistake.

MM | Mistakes waste time and cost money. Wouldn't it be wonderful if in future we could make fewer mistakes in the highly efficient world of business?

NAKAMURA | But we would also have to spend money on psychiatrists to treat us because our nerves would be utterly ruined [*he laughs*]. I'm certain that none of us would like to live in a world where there were no mistakes.

THE KITCHEN ARTIST

Tohru Nakamura, 34, has been the head chef at Geisels Werneckhof in Munich since 2013. As the son of a Japanese father and a German mother, he fuses Asian and European cuisine and is regarded as one of the leading chefs in Germany. In 2016, his artistry was rewarded with a second Michelin star. He is one of only five chefs in Munich to hold two stars.

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*The challenge is
 whether we will
 succeed in
 incorporating
 creativity into an
 algorithm in future.*
 «

SANDRA HIRCHE



MM | But?

HIRCHE | Perfection and efficiency have a place in our society. But we would not want to give up what is genuinely human, which includes creativity and empathy, but also our mistakes. They are part of our fundamental nature.

MM | Technology fans are predicting that this is precisely why people will become increasingly superfluous and will simply be there to facilitate an evolution that has the ultimate goal of creating an artificial super-intelligence. Are the machines likely to dominate us as they do in many science-fiction movies?

HIRCHE | I don't believe in a future where people become slaves to machines. We will always be in a position to pull the plug. The question is also whether we really want a world like that. Smartphones weren't developed to encourage social isolation, but to improve communication. The situation with artificial intelligence is similar. It has advantages and disadvantages, which is why we need to think very carefully now about the extent to which we want to make use of this technology ...

NAKAMURA | ... and who will be in control of these things. We have made huge technological progress in the last ten or 20 years.

HIRCHE | That's very true. I recently tried an augmented reality headset and was

really amazed by the quality and by how realistically things can be represented. But we are in a position to decide for ourselves how far we want these developments to go.

MM | Perhaps as far as the humanoid robots in Hollywood movies that we will fall in love with?

HIRCHE | We definitely won't be falling in love with machines, but experiments have been carried out that show that people can have emotional relationships with machines. For example, a small cuddly seal robot called Paro has been developed in Japan to help autistic children to respond to touch and to make social contacts.

MM | So perhaps the perfect wife or husband isn't so far away?

HIRCHE | I can't imagine that happening,

because I would always be aware that it was a programmed machine ...

NAKAMURA | ... you could have different models: empathetic or sporty, for example.

HIRCHE | [*she laughs*] That would be a possibility. But seriously, it's amazing how a wink from a machine can give rise to feelings in humans. Personally, I think that these robot dolls are not worth working on. But the humanization of technology that we're now seeing is perhaps part of the very nature of things, because humans prefer to interact with other humans.

MM | This seems to be working the other way around, too. Top Paralympic athletes with their high-tech prostheses are jumping higher and further than ever before. Are people and machines merging together?

HIRCHE | We could see this sort of symbiosis in future and not only at the top levels of sport. An artificial pancreas is already available for diabetics that automatically measures their blood sugar and uses an insulin pump to maintain the right balance. We can use machines to replace functions that we have lost. In future, they may even be able to improve human bodies in the same way.

NAKAMURA | We have been doing this for centuries with spectacles. One interesting question is how we will define the normal condition of the human body in future. Will it still be OK if one arm is two millimeters longer than the other? Do I have to have 20/20 vision or is it acceptable if my sight isn't quite as good as that?

HIRCHE | We will begin by offering technical solutions to compensate for missing functions. It is hard to say today where this is likely to end.

NAKAMURA | I just hope we'll have the opportunity to get used to these things gradually. The merging of humans and machines certainly won't happen overnight. In the same way as with self-driving vehicles, the developments will happen slowly. There will be initial tests, road trials, and then routes that will be approved. We need a step-by-step approach.

MM | In his worldwide bestseller *Homo Deus*, the Israeli historian Yuval Noah Harari writes

that optimizing the human body will be the greatest revolution since the beginning of life on our planet. Is this revolution desirable?

NAKAMURA | Desires can change and are always a question of how you are personally influenced by a situation. If there is a possibility that you will lose a loved one, you will make a different judgment from someone who is unaffected.

HIRCHE | If I have health problems in 30 or 40 years' time, I will be very grateful for help of this kind and I will definitely make use of it. In societal terms, we need to ask ourselves whether we want this optimized superhuman or whether we'd prefer to go on living with our individual differences, including our problems.

NAKAMURA | I think we run the risk of raising the standard of what is normal even higher because of the technology available to us. That could increasingly lead to people being penalized. For example, if health insurance is made dependent on people's lifestyles in future, that would have a kind of conditioning effect. If you're a non-smoker and take regular exercise, you'd pay less.

MM | In China this vision will soon become reality. By 2020, the Chinese state aims to have recorded data about all its citizens, from top to toe, so to speak. People who behave well will benefit from this, while people who misbehave will be investigated. Would you provide your data for a system like this?

HIRCHE | Only if it helped improve my life. I'm happy to make my location data available to Google, because it allows me to avoid the next traffic jam. If I can benefit in medical terms, I'd be prepared to provide my health records, because this could make it easier to identify symptoms and prescribe the right medication and other treatments. It's simply a question of what I get out of it in each individual case ...

NAKAMURA | ... and who will have access to my data in future. The progress that we can make as a result of our technological achievements is a positive development, but only if it is democratic.

MM | What sort of machine with artificial intelligence would you like to have?

HIRCHE | An all-round domestic assistant, but that's a long way off.

NAKAMURA | I'd like a washing system that magically washes my dirty clothes, irons them, and puts them back in the cupboard just where I want them.

HIRCHE | My all-round domestic machine would, of course, be able to do that, too.

MM | What about cooking?

HIRCHE | I'm more than happy to leave that to top chefs like Tohru Nakamura. ■



SUMMIT MEETING IN THE ATELIER ROSA, MUNICH

German sculptor Hermann Rosa worked from 1960 onward in the studio that he built himself. The building is a unique feature of the German architectural landscape and the perfect setting for a discussion about human creativity and artificial intelligence. From left to right: Sandra Hirche, Stefan Schmorte, Florian Severin, and Tohru Nakamura

THE TASTE OF TOMORROW

BY MICHAEL MOORSTEDT



Against the background of a growing world population and increasing demand for sustainability, pioneering businesspeople are developing the foodstuffs of the future. Their aim is to use the latest technology to produce food that will feed the world, but is not mass-produced

Staff and students at the Massachusetts Institute of Technology (MIT) know all there is to know about the digital world. But alongside the supercomputers, one of the most exciting projects at the elite American university is a farm, and Caleb Harper is the young man in charge of it. He does not look as if he gets his hands dirty very often. You're more likely to find him at futuristic trade fairs than out in the fields, and his work is based on bits and bytes, rather than farmers' sayings. "What if we could create our own climate?" he asks. "It would give us completely new opportunities for producing food."

The members of Harper's team call their test beds "tree computer" and "food server". Every plant is monitored closely using a variety of sensors. "We can check what they taste and smell like, how fast they are growing, and how much water they are consuming, regardless of their geographical location." Caleb Harper and his colleagues regulate the temperature, ambient humidity, and concentrations of carbon dioxide and oxygen down to the nearest decimal place, from sowing right through to harvest.

The digital farm at MIT is just one of many ideas that call into question the way we

think about food. How and, even more importantly, what will we be eating in the future? Because the way in which we produce all our food today, from fish and meat to fruit and vegetables, has one thing in common: inefficiency. Already more than half of the world's population lives in cities and, by 2050, more than six billion people will be city dwellers. In order to alleviate growing world hunger, agricultural productivity will have to increase by 50 percent in future, according to the UN Food and Agriculture Organization.

Purple LEDs replace sunlight and mineral wool soaked in a nutrient solution replaces soil—on a city farm, the romance of the countryside is sadly lacking. But the carefully controlled atmosphere means that no pesticides are needed. The high-tech farm has long since moved from Harper's lab into the cities of Germany. In Hamburg, Isabel von Molitor and Mark Korzilius, the co-founders of Vapiano restaurants, are running one of these modern farms in a brick-built warehouse. Korzilius now sells home-grown herbs instead of the Italian lifestyle. In Berlin, the agricultural start-up ECF Farmsystems has set up an aquaponics unit between the ring road and fast food restau-





MICROCLIMATE
Vegetables and lettuce are grown under optimal conditions at the fully digitalized farm at MIT



GREEN GOLD

Isabel von Molitor,
founder of Farmers
Cut, with the fruits of
her business idea

rants, where it combines vegetable growing and fish farming in a highly efficient cycle. The waste products from the fish are used to fertilize the plants. And both the fish and the vegetables end up on the plate. To the uninitiated palate, tomatoes from the vegetable factory are hard to distinguish from organic produce.

“What we are doing is importing water from Morocco,” says Nicolas Leschke, one of the founders of ECF, describing the complex logistics systems of the globalized agricultural industry, where vegetables are grown in sunny regions with a shortage of water, like Morocco, and then transported thousands of miles to the end consumers. Why grow tomatoes, cucumbers, and lettuce in Spain and Morocco, when it’s possible to cultivate them in Berlin or Hamburg? Both businesses supply their produce to trendy restaurants and to the supermarkets around the corner.

V egetables are also being grown in other cities, for example on the roofs of buildings in New York and in a former air raid shelter

nearly 100 feet below the streets of London. Of course, the amounts of food being produced are not large enough to come anywhere near to resolving the global hunger problem. For example, the facility in Berlin has an output of a few dozen tons per year. This is why city farms need to grow upwards over several stories. A vertical farm covering an area of two and a half acres could produce ten times as much food as a field of the same size. In addition, vegetables grown in a closed cycle use up to 90 percent less water and two-thirds less fertilizer than conventional agricultural systems.

Although their methods differ considerably, the new city farmers have the same goals as the organic movement: sustainable and locally produced. Organic food has become a mass trend in recent years. In Germany alone, consumers spend almost ten billion euros every year on organic produce. It’s no surprise. A study entitled “How Germany Will Be Eating in 2030” shows that the majority of the population feels that “resource-efficient food in a value-oriented society” is the most important consideration. One problem that city farming

can’t resolve is the meat on our plates. Together with the energy industry and transport, conventional meat production is one of the main threats to our global climate. Huge quantities of water are used and vast areas of forest are destroyed to grow feedstuff for livestock. In addition, the animals emit large volumes of the climate gases CO₂ and methane.

“Only a move away from meat will save us,” says Godo Röben, managing director of the food company Rügenwalder Mühle. Traditional meat producers and food start-ups with eye-catching names, such as Beyond Meat and Finless Foods, are working to develop omelets containing no eggs, burgers containing no beef, and sushi containing no tuna. The meatless revolution is backed by millions of dollars of risk capital. Food giants such as Oetker and Nestlé are establishing start-up incubators, with Bill Gates and Google co-founder Sergey Brin among the investors. All of a sudden, some of the glamour of Silicon Valley has rubbed off onto vegetarian and even vegan food.

C loser to everyday life, because they are already available in the chiller cabinet of every supermarket, are meat substitutes made from soya or protein-rich lupine beans. At the other end of the development spectrum is the in-vitro burger, which is produced from stem cell cultures grown in bioreactors. The process is still too expensive for mass production, however, one thing is certain: Not only the ingredients of what we eat will be changing, but also the way we prepare our food. “What kinds of protein-rich, tasty, strange, and rather unusual dishes can you imagine?” asks Koert van Mensvoort, director of the Dutch technology think tank Next Nature Network. By way of preparation, he has already written his own in-vitro cookbook containing a few dozen speculative recipes: knitted steak, 3D printed bone marrow eggs, and meat ice cream. Mensvoort is certain that the future will taste delicious.

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OUTDOOR



WELCOME OUTDOOR!

For decades ISPO in Munich has been the most important exhibition for the sports industry. As the world's leading sports fair, it has the best connections in the sector and fills all the buildings at Messe München. It offers exhibitors service packages that go far beyond the event itself and bring benefits throughout the year, including ispo.com, ISPO Open Innovation, ISPO Brandnew, ISPO Academy, and a range of digital offerings. Now it is becoming even bigger. The members of the European Outdoor Group (EOG) have voted with a two-thirds majority to move the OutDoor trade fair from Friedrichshafen to Munich from 2019 onwards.

Messe München has almost 50 years' experience in the outdoor activity and sports sectors and stages ISPO in Munich, Beijing, and Shanghai. The CEO of Messe München Klaus Dittrich is excited about the synergies offered by the merger of ISPO and OutDoor. "We believe that OutDoor is the ideal partner for the ISPO group. Nowadays consumers take part not just in one sport but in several. This means we need to reinterpret the idea of outdoors that forms part of our concept." Welcome OutDoor!

COMMAND CONTROL



DIGITALIZATION: OPPORTUNITIES AND DATA PROTECTION

Digitalization is a key trend in the world of business and in society as a whole. It affects all areas of our lives and opens up huge opportunities, but is also accompanied by risks. It is changing the traditional way in which trade fairs are held. Messe München's digital transformation is already underway. It is counteracting the risks of digitalization with its new Command Control event, a European summit on the theme of cybersecurity. The innovative concept demonstrates that cybersecurity is definitely no longer the sole preserve of the IT department, but also has an impact on top managers in particular. The global success of Messe München has been recognized by the world's largest trade and communication platform for businesses, the Chinese Alibaba Group with its B2C portal Tmall. Alibaba and ISPO are planning a strategic cooperation which involves Tmall offering more than 4000 ISPO customers the opportunity to gain access to 488 million consumers on the Alibaba platforms and to be a part of this rapidly growing market for the sports industry.

Digitalization is also the theme of the Innovation Journey. This concept was developed in cooperation with SZ Scala and was launched in 2017 at Bits & Pretzels, the conference for founders and start-ups. It is a mobile think tank for entrepreneurs and achievers who are open to unconventional ideas and looking for young start-ups with a pioneering spirit in order to enter into collaborations. The second Innovation Journey in March 2018 led to Austin, Texas, where the world's largest digital conference was taking place and where attendees from all over the world took inspiration from the latest trends and technologies. In June the third Innovation Journey had Automatica as its destination. Its theme was: Embrace the robots! Working in an automated world.

That is precisely the idea behind the Innovation Journey. It brings the participants to events where creativity and knowledge are combined with the business models of the future. In selected innovation workshops they come into contact with start-ups, researchers, and original thinkers. During the course of lively discussions the participants develop ideas for the solutions of the future and identify how small companies can transform themselves into modern corporate enterprises.

LOPEC


THE APPEAL
OF ELECTRONICS

There's plenty happening on the European market for wearables, which is growing every year by around 25 percent. In the past we simply wore a watch on our wrists and perhaps owned a blood pressure gauge, but now wearables are gradually making their way into our lives in the form of sensor shirts and GPS running watches that measure health and performance data and connect users with their surroundings. Wearable electronics can even add functions to clothes that would not be available with any other technology. For example, the Soundshirt from Cutecircuit allows people with hearing impairments to feel concerts. The fabric contains 16 micro-actuators which turn sounds into vibrations. You can feel the violins on your arm, for example, and the drums on your back. The Hug Shirt™ functions in a similar way. It gently squeezes the wearer when someone sends a hug message to the shirt by smartphone.

The Internet of Everything is also being implemented using printed electronic devices, as you can discover at LOPEC, the leading international event for printed electronics. This technology, which is still in its infancy, has plenty of innovations to offer.

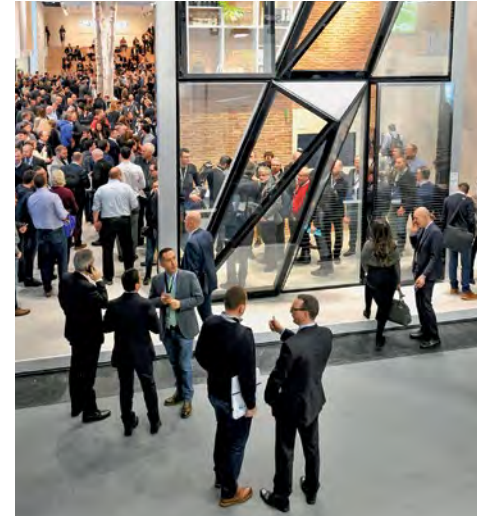
IFAT


THE CHALLENGE
OF CLIMATE
CHANGE

Hurricanes in the Caribbean, floods in Houston, heavy rainfall in Germany: global weather disasters turned 2017 into the most expensive year ever for the insurance industry. They also caused a growing feeling of alarm among the general public. A total of 72 percent of Germans are worried about future extreme weather conditions and 77 percent are concerned about drinking water security. Scientists believe that the number of extreme weather events will increase in future. The key word here is climate change. "Managing climate change and reducing its consequences will be a costly business," said leading climate researcher Professor Stefan Rahmstorf from the Potsdam Institute for Climate Impact Research at the IFAT Future Dialog recently. "But not doing these things will prove to be even more expensive."

But what can we do? In May IFAT in Munich highlighted projects and innovations where huge efforts are being made to safeguard resources and achieve environmental targets. The world's leading fair for environmental technologies has been successfully exported to other important markets such as China, India, South Africa, and Turkey.

BAU


BRIGHT SPOTS
IN BUILDINGS

What sort of illumination do you want in your new house? Daylight or artificial light? Where should the light sources be positioned? Choosing the right lighting design is an increasingly important part of creating the overall concept of a building. The main considerations include controlling the lighting, directing daylight in an appropriate way, using light strips and light domes, designing artificial light concepts, and providing sun protection systems. These factors are also linked to building automation, which ranges from elevators to the many and varied options for the automated smart home.

The BAU trade fair in Munich will be focusing on the subject of light in 2019. Lighting will also be sharing a new exhibition space together with smart building solutions, which will be located in a separate hall. Ultimately these two forward-looking fields belong together. With these new themes, the world's leading trade fair for architecture, materials, and systems will be bigger than ever before. It will take place from January 14 to 19, 2019 and will fill all 18 buildings at Messe München. The additional floor area at BAU is the result of the construction of the two new halls C5 and C6.

»WE WANT TO CONNECT PEOPLE«

BY KATARINA BARIĆ AND STEFAN TILLMANN
PHOTOS: KONRAD FERSTERER



Monika Dech and Margit Dittrich founded the "Frauen verbinden" (Connecting Women) network. They both realize that many of the discussions we have about gender are no longer necessary. We asked them what women can learn from one another

MM | Monika Dech, you've been a member of senior management for many years and a number of the world's leading trade fairs in Munich are headed by women, such as the construction machinery fair bauma, which in terms of square footage is the largest trade fair in the world.

However, many outsiders regard trade fairs as a man's domain. What's your reaction to that?

MONIKA DECH | Messe München is not a male-dominated business. On the contrary, more than 60 percent of our employees and 40 percent of our managers are women. Gender has not played a role in my career at Messe München. I think it's important to find the right person for each position at the right time.

MM | What can women do better than men in the business world? Or is there ultimately no difference between the sexes, as many feminists maintain?

DECH | Women generally put a greater emphasis on relationships and perhaps have a better feel for how to carry people along with them. These are useful qualities in our modern, sometimes challenging business world and in the era of digitalization.

MARGIT DITTRICH | We take a different approach to problems and are more inclined to be guided by our curiosity. Women need to be brave enough to highlight these differences.

MM | Let's be honest: Isn't the gender balance much better than it was in the past?

DITTRICH | It is the role of women in society that has changed. I no longer need to compare myself with men in the same position. Women in management often try to copy men. But it would be a mistake for Monika, for example, to act in just the same way as a man on the management team. As an executive coach, I always tell my clients that they do not have to behave like a man in order to be noticed.

MM | But there are still pay differences. Do you think that women ask for too little?

DITTRICH | It's true that women don't sell themselves as well as men in relation to their own performance. But there are also societal reasons for the pay gap. We live in a world where women have only recently been

WOMAN POWER

The initiative launched by Margit Dittrich (left) and Monika Dech aims to connect and support women



» **Digitalization plays into women's hands in a professional context.**

«

MONIKA DECH

able to negotiate a five-year deal as a managing director. Women couldn't sign an employment contract without the consent of their husbands until 1977. This sort of inequality didn't come about by accident. But I firmly believe that we will be able to put this behind us by 2030.

MM | With regard to 2030, people are now saying: "The future is female." Do you agree?

DECH | That is definitely not meant literally, because it would involve going from one extreme to the other. It's more about exploiting women's potential, but we also need to improve the basic conditions, such as the work-life balance. Women still do more of the childcare and housework. That's why I believe that the current changes in the world of work are playing into women's hands. If we just take digitalization as one example, it means that we don't need to spend eight hours in the office, which is a blessing for all working people with families.

MM | Is society missing out because women are not playing a greater role in shaping its progress?

DITTRICH | We are faced with a huge shortage of skilled workers, which we will not be able to make up by 2030. That's why we need to exploit all the available potential. Nowadays, there is nothing that women cannot do as well as men. We finally need to throw out all the outdated ideas and stop thinking about whether we should be thinking about something, such as women's boards or quotas, for example. We simply need to start doing things instead of discussing them.

MM | Have we been focusing on the alleged glass ceiling for too long?

DITTRICH | In the past, I would have answered yes to the question of whether we need a quota or whether there is a glass ceiling. For a long time, society was not prepared to accept that a woman could hold a management role. That was not because it wouldn't have been possible, but because our mindset didn't allow for it. Today, women are even turning down management positions. And that may simply be because the company has a poor record in the field of corporate social responsibility.

DECH | At the same time, parts of the business world are still dominated by men and companies where women are unlikely to be found on the management team. But it has been demonstrated that mixed teams, consisting of men and women who have different skills and different approaches to work, are the most successful. However, things have improved a lot over the last few years.

MM | So why do we still need a women's network?

DECH | We need a platform where women can discuss issues and give each other support. As Margit has already said, many women know the feeling of having to assert themselves, change the way they work, or take a different approach. Women are still faced with specific challenges in the business world and we want to be able to talk about them and help one another out.

DITTRICH | When women get together, they feel comfortable. They don't need to

look attractive or be strong and they can even sometimes admit that they can't do something. I don't think I'd be able to behave like that if men were around. But actually, I didn't ever want to found a women's network [she laughs]. It's just that we keep realizing that society hasn't yet made as much progress as we would like.

MM | What successes has the network had so far?

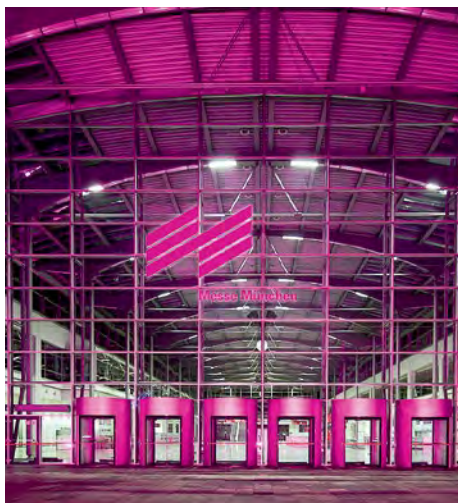
DECH | I now know a lot of my customers at Messe München much better and I've met some new, inspiring, and very special people. I've found it very enriching and also a lot of fun on a personal level. It's also made Messe München more visible. The network is an important part of our employer branding and brings our slogan "Connecting Global Competence" to life.

DITTRICH | A lot of productive relationships have developed within the network. Our members often say how grateful they are for the new and surprising encounters that they would not have had without the network.

MM | What are the next steps for the network?

DECH | We are frequently asked what our membership target is. We don't have one. We need the right people, not large numbers of people.

DITTRICH | Exactly. But we still have a lot of ideas. One of them involves connecting men. Perhaps our network should be called "Connecting People" [they both laugh]. ■



LIGHTING UP THE CITY

Monika Dech and Margit Dittrich founded the "Frauen verbinden" (Connecting Women) network in 2015 as a platform for female managers. It now has more than 350 members from fields such as politics, academia, and culture. The events it holds give women the opportunity to talk, network, and discuss new ideas. But it also raises awareness of wider issues. For example, in October 2017, at the initiative of the network, five buildings in Munich, including the headquarters of Messe München, were lit up to highlight the global campaign to fight breast cancer.

ACROSS ALL INDUSTRIES

BY FELICITAS WILKE | PHOTO: REGINA RECHT



Automatica is the leading exhibition for automation and robotics. Every two years, visitors have the opportunity to discover how intelligent assistants will be transforming companies' production processes in the future

Human-robot collaboration is already going well in Armin Wittmann's office. On the windowsill, two Playmobil figures wearing hard hats stand among a selection of model robots and look across the room with smiles on their faces. Wittmann's concern is what the factory of the future will look like. As project group leader, he is responsible for organizing the leading exhibition for automation and robotics, Automatica, which in 2016 alone attracted more than 43,000 visitors to the Messe München exhibition center.

2018 was another Automatica year. The exhibition opened its doors from June 19 to 22. For Wittmann, the winding down of one fair is the run-up to the next. His responsibilities prior to each fair include inviting speakers to take part in the panel discussions, holding meetings with the media, planning evening events, and drawing up programs of accompanying activities for the delegations. As he puts it, he and his team are working "to fulfill our promise."

One of the challenges for the Automatica team is ensuring that the exhibition appeals to a wide range of industries. "We see ourselves as a technology exhibition for all the manufacturing sectors," says Wittmann. This means that the exhibitors provide solutions for carmakers, for the packaging industry, and for food and drink producers. "Our goal is to enable visitors to learn from other industries' solutions and to exploit

THE FUTURE AT HAND

Armin Wittmann is
project group leader
of Automatica

synergies," explains Wittmann. Intelligent automation in a manufacturing environment includes image processing systems, such as smart cameras, that can distinguish between different objects, intelligent hardware for product assembly, and big data for connected factories. This is a world that Wittmann is familiar with. He has a degree in industrial engineering and at the start of his career he worked for a manufacturing company. Later, he spent some time at Inhorgenta, the jewelry and watch fair. The move to Automatica took him back full circle to his original profession. "My background helps me to understand how companies manufacture products and how they think," he says.

Although Automatica is far from being a pure robotics exhibition, the assistants with the gripper arms are the secret stars of the event. Industrial and service robots can now do much more than they were capable of a few years ago, as a visit to a car plant or an automotive industry supplier's factory will show. The robots no longer need to be shut in cages while they are working in case they give the people around them a fatal blow to the

head, as Wittmann explains with a grin. "Because of their sensors, they can now work safely with people."

This simplifies the human-robot collaboration of the kind that the project group leader envisages for the future. People will be responsible for programming and coming up with innovations, while the robots will be helping them and doing the hard labor. Looking at his windowsill, he says, "Some jobs for people in production will disappear, but new ones will be created." Automatica without people is hard to imagine. ■

RAPID GROWTH

By the end of 2017, Automatica (June 19–22, 2018) was already able to record a 12 percent increase in first-time exhibitors compared to 2016.



GO WITH *THE FLOW*

BY KATARINA BARIĆ
PHOTO: REGINA RECHT



As a project group leader, Petra Westphal is responsible for the Drinktec fair, among other things. In this interview, she reveals her formula for success and explains the challenges involved in exporting a fair

You receive a message on your smartphone telling you that the fruit juice has been standing in the sun for too long and needs to be put in the shade. The juice itself or, more accurately, its container has sent you the message. Intelligent drink packaging now has built-in sensors that can communicate with smartphones.

This is just one ground-breaking idea from the drinks industry, but there are many more and they will all be presented at Drinktec, the world's leading fair for the beverage and liquid food industry. Drinktec takes place every four years and is the responsibility of Petra Westphal, project group leader at Messe München. Westphal, who comes from the Rhineland and still enjoys drinking German dark beer, has been involved with Drinktec for more than 20 years. In the industry, this has earned her the title of "Miss Drinktec." She says that "consumers nowadays are more sophisticated than ever before." Drinks must be able to do much more than simply quench thirst or taste good.

This is why there is currently a boom in energy drinks. But don't imagine these are the old familiar products containing taurine, caffeine, and carbon dioxide that were once said to "give you wings." Now, we are talking about drinkable forms of fruit and vegetables, such as juices or smoothies, otherwise known as liquid

food. Liquid fruits are regarded as nutritionally valuable and they are extremely popular because they promote health and well-being.

Other equally important considerations for consumers are how their drinks are prepared and which ingredients are used. Coffee must be cold-brewed and milk lactose-free. Plain old lemonade is jazzed up with turmeric and agave nectar. And in the USA, the latest trend is raw water, which is completely untreated.

The drinks are of interest, whether they are supplied in glass bottles, aluminum cans, or cardboard packaging, but they are ultimately only a fringe phenomenon at Drinktec. The fair was launched in the 1950s as an event for brewers, but it now covers the entire supply chain of the drinks industry, from the manufacturing, filling, and packaging processes through to solutions for logistics and marketing. With this wide-ranging offering, the fair attracted a record number of visitors, more than 76,000, in 2017.

Despite its mass-production processes, the beverage industry is also beginning to focus on individualized manufacturing, in other words, a batch size of one. At Drinktec 2017, visitors were able to create their own personal drinks using their own recipe and choice of



INDUSTRY PLATFORM

DRINKTEC is the world's leading fair for the beverage and liquid food industry. In 2017, it had 76,000 visitors and 1,749 exhibitors from 80 countries. The next Drinktec in Munich takes place from September 13 to 17, 2021.

packaging plus self-designed labels. The industry is pinning its hopes on Industry 4.0, which has already led to highly flexible machines and digital printing solutions being introduced into its processes. Now, the challenge is to combine a batch size of one with mass production. According to Petra Westphal, it won't be long before this happens. "I'm certain that groundbreaking developments will be on show at Drinktec 2021." The fair is the ideal opportunity for the industry to present its latest innovations.

The fact that production is becoming smarter and more flexible allows more efficient use to be made of resources. Sustainability is already an important consideration in many areas of the beverage industry. For example, clean-in-place processors now inform operators when a machine needs cleaning. This keeps the consumption of water, cleaning agents, and energy to a minimum. Recycling is also a growing theme at Drinktec. "In Germany, 98 percent of PET bottles are recycled," says Westphal. "But intensive research into alternatives for PET is underway." Progress is being made in the field of bio-PET packaging in particular. The goal is to produce containers made entirely from plant-based raw materials. Drinktec has its focus firmly on the future, but not only in Germany. Petra Westphal and her team are responsible for a worldwide network of fairs and cooperative events in Africa, India, and China, for example.

They go where the industry needs them, with tailor-made fairs for the regions in question. This gives them a presence in the major markets in the years in between Drinktec. The main challenge involved in holding events outside Germany is bringing together the different cultures and their individual needs and working methods. Petra Westphal relies on personal contact, tolerance, and a relaxed attitude to unify the teams. "Our recipe for success includes not being afraid to admit that we don't know something. We're always open to new methods and approaches," says Westphal. This open-mindedness is one of the things that has made Drinktec the most important international event for the beverage industry.

Petra Westphal has come up with the perfect analogy for the drinks summit that is held every four years. "Drinktec is the Olympics of the beverage and liquid food industry. We want to be able to continue offering our customers something that they won't find anywhere else in the world."

MISS DRINKTEC

Petra Westphal, who was born in 1966, began her career in the hotel industry. She has been working for Messe München for more than 25 years, first as a project assistant and then as a consultant. In 2003, she took over responsibility for the project management of Drinktec. Now, as project group leader, she is also responsible for Drinktec events outside Germany: China Brew China Beverage, drink technology India, and food & drink technology Africa.



TRADE FAIR HIGHLIGHTS



THE ISPO CUP

For many years, Gert Boyle was president of the US outdoor apparel giant Columbia Sportswear. The 94-year-old German-born American businesswoman was awarded the ISPO cup in honor of her life's work.



A STRONG TEAM

Olympic boxing champion and former world titleholder Henry Maske (right) was a guest at the Health & Fitness Forum in Hall 6, together with martial artist and fitness instructor Pierre Ammann of Professional Intensive Interval Training (P.I.I.T.)



WINSOME TRIO Franziska van Almsick (left) spoke out in favor of more swimming lessons for children. Star soccer goalkeeper Manuel Neuer (center) reported on the progress of his training and professional athlete Nils Frommhold presented high-tech running shoes

ISPO

At ISPO, which took place from January 28 to 31, 2018, a total of 2,801 companies presented the latest sports equipment. The world's largest sports trade fair focused on the opportunities presented by digitalization for the sports equipment industry. Against this background, Messe München launched ISPO Digitize (June 28–29, 2018), a platform that offers manufacturers and retailers an insight into the digital future of the industry.

INHORGENTA AWARD

The guests at the Inhorgenta award ceremony experienced impressive masterpieces of the goldsmith's art and watch-making technologies. The glamorous event, held in the Postpalast building in Munich on February 18, 2018, formed the highlight of this year's fair for jewelry and timepieces. The prominent members of the seven-person jury, who included Barbara Becker and Franziska Knuppe, presented the Oscars of the jewelry and watch industries.



STAR POWER ... The lucky winners in all categories of the Inhorgenta Award 2018



GREENTEC AWARDS

Since they were first established ten years ago, the GreenTec Awards have become the world's most important environmental prize. Once again, this year projects in twelve categories have been recognized that are dedicated to protecting the environment, making efficient use of resources, and promoting green lifestyles. The awards were presented at a gala evening held on May 13 to mark the start of this year's IFAT trade fair.

DISTINCTION

Dr Auma Obama accepts the IFAT Environmental Leadership Award from Messe München's managing director Stefan Rummel



INNOVATION JOURNEY IN AUSTIN

Blockchains, bitcoins, and artificial intelligence: At SXSW, the world's largest digital conference, in Austin, Texas, the 15 participants in the Innovation Journey had the chance to meet thought leaders and drivers of digitalization. It was a week packed with knowledge and inspiration.

NETWORKING BARBECUE

IN THE INNOVATION VILLAGE

Messe München CEO Klaus Dittrich (center) with the company's top executives and external leaders, such as Josef Schmid (the mayor of Munich), Marcel Otto Yon (CEO, Cyber Innovation Hub of the German Armed Forces), Ben Broshi (CDO, Deutsche Telekom Medien), and Kerstin Heiligenstetter (head of She's Mercedes, Daimler AG)

F.R.E.E

From February 21 to 25, 2018, the Munich fair for leisure and travel, f.re.e., presented the industry's latest trends, from trailer camping and cruising through to the health and spa industries. This year, the fair's partner country was Malta.



GREEN LIGHT

The Bavarian Minister Ilse Aigner (center) opened the f.re.e fair together with deputy chairman of the board of Messe München, Dr Reinhard Pfeiffer (left), the Maltese ambassador, Albert Friggieri (right), and Barbara Radomski, representative of Bayern Tourismus Marketing GmbH (right). This year, the fair took place for the tenth time

WOMAN POWER

At the New Year's reception in the Säbener Lounge at the Allianz Arena, the networkers from "Frauen verbinden" celebrated in style. Among them were the organization's founders, Margit Dittrich and Messe München's deputy managing director Monika Dech.



FRAUEN VERBINDEN

The goal of "Frauen verbinden" (Connecting Women) is to help women to network. Since 2015, the organization has been offering leading managers and businesswomen to share their ideas and to bring together the contacts of Messe München with their own personal networks.

EXHIBITION LOCATIONS WORLDWIDE

GERMANY

Munich

ISPO Digitize

June 28–29, 2018

**TRENDSSET with Bijoutex
Summer 2018**

July 7–9, 2018

INTERFORST

July 18–22, 2018

**iba – The world's leading
trade fair for bakery,
confectionery and snacks**
September 15–20, 2018

Command Control

September 20–22, 2018

EXPO REAL

October 8–10, 2018

electronica

November 13–16, 2018

Heim+Handwerk

November 28–December 2, 2018

BAU 2019

January 14–19, 2019

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SOUTH AFRICA

Johannesburg

**food & drink technology
Africa**

September 4–6, 2018

.....

CHINA

Shanghai

ISPO Shanghai

July 5–7, 2018

CHINA BREW

CHINA BEVERAGE

October 23–26, 2018

analytica China

October 31–November 2, 2018

bauma CHINA

November 27–30, 2018

Guangzhou

IE expo Guangzhou

September 18–20, 2018

Hong Kong

electronicAsia

Oktober 13–16, 2018

Beijing

FENESTRATION BAU China

October 31–November 3, 2018

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INDIA

Hyderabad

**analytica Anacon India
and India Lab Expo**

September 6–8, 2018

Bangalore

electronica India

September 26–28, 2018

productronica India

September 6–28, 2018

**LASER World of PHOTONICS
INDIA**

September 26–28, 2018

Intersolar India

December 11–13, 2018

Mumbai

IFAT India

October 15–17, 2018

drink technology India

October 24–26, 2018

Delhi

bauma CONEXPO INDIA

December 11–14, 2018

.....

IRAN

Tehran

IranConMin

November 5–8, 2018

.....

TURKEY

Istanbul

logitrans

November 14–16, 2018



Messe München is represented in the world's most important growth markets. Alongside Munich, this includes China, India, Turkey, Brazil, Africa, Russia, Iran, and Vietnam. The Messe München portfolio includes more than 50 of its own events, with 21 held at its premises in Munich and 35 abroad. Here are the trade fairs that will take place worldwide in the second half of 2018



THE MUNICH SCENE

BY KAROLINE AMON AND FLORIAN SEVERIN

The capital of Bavaria is known throughout the world for its living traditions. But our tips show that, in addition to being famous for its veal sausages and lederhosen, Munich has become an international trendsetter



PREMIUM COFFEE

For a long time, filter coffee was a no-go area for coffee connoisseurs. However, at Man versus Machine you can smell the fragrant aroma of coffee brewing. The secret is the freshly roasted coffee beans. Man versus Machine obtains the beans, which are grown in special microclimates in Africa and South America, in their raw, green state. They are then roasted in the company's own coffee roaster. The special aroma of the arabica beans hangs in the air outside the two cafés in Munich. Inside, freshly roasted espresso and filter coffee are served in a minimalist setting. Our tip: Try a delicious cinnamon pastry to make your coffee experience complete.

MAN VERSUS MACHINE

MÜLLERSTRASSE 23, 80469 MUNICH
TÜRKENSTRASSE 63, 80799 MUNICH

Photos: Lion Mayer (2)



ONE STEVE MCQUEEN, PLEASE!

"Here is where I'm allowed to be a man." The reference in this case is to the Barber House in the center of Munich. The experts in hair cutting, wet shaving, and beard trimming in their white aprons spoil their fellow men with special treatments, designed specially with gentlemen's needs in mind. Wood paneling, leather sofas, and barber's chairs that look as if they date back to the 1950s can make men's dreams come true. For example, the Steve McQueen treatment package includes a haircut, a traditional wet shave, the removal of ear and facial hair, and a massage. A range of treatments for men's hands and feet has just been introduced. A visit to this spa-like oasis can easily be fitted in between two meetings.

BARBER HOUSE

PACELLISTRASSE 5, 80333 MUNICH

FRAUNHOFERSTRASSE 20, 80469 MUNICH

SLEEPING IN THE BANK

The pop-up movement has now reached the hotel sector. Until 2019, the Lovelace will be occupying the hallowed halls of the former Bayerische Staatsbank. The offices of the bank directors have been repurposed into 35 hotel rooms. A night in one of the smaller rooms in the new pop-up hotel in Munich's most expensive city location costs 170 euros. In the rest of the 50,000-square-foot building, there are concerts, films, events, and cafés open to hotel guests and the general public. The Lovelace has combined all of these things to create a unique cultural happening. Hotel operators Michi Kern and Gregor Wöltje have pulled out all the stops for their two-year occupation, creating modern interiors that include a bar in gold and plants growing on the walls. The lobby leaves visitors in no doubt that this was once a bank. They are greeted by an outsize hand in commemoration of Josef Ackermann.

THE LOVELACE

KARDINAL-FAULHABER-STRASSE 1, 80333 MUNICH



TEXTILE ART

Only paintings and prints come in limited editions—and the fashion creations of Stephanie Kahnau. The designer produces her own hand-printed fabrics for her collections. The results are pieces with a minimalist feel, each with its own number. She puts her fashion artworks on show in the trendy district of Haidhausen. The store has the atmosphere of an art gallery in a New York industrial loft—a cool backdrop for prestigious must-haves.

Next door, Stephanie Kahnau gives customers an insight into the making of her fashion artworks. In her studio, she also creates accessories such as jewelry, scarves, and rucksacks made of printed leather that are also suitable for business use. Stephanie Kahnau combines her collection with pieces by other Munich designers whose studios are also connected to the store and open for viewing.

HIER

INNERE WIENER STRASSE 24, 81667 MUNICH

*The concept store
HIER offers
clothes and
accessories from
other Munich
labels, too*



MUN-ICH GOURMET

Pork in a spicy sauce wrapped in a small pancake made from soft dough—it sounds good, doesn't it? This dish is just one of many courses that Korean chef Mun Kim serves up in his restaurant MUN, which is located in cellar premises in Munich. The former Wall Street banker left his job in 2008 and became a chef, cooking in places as far-flung as Tokyo and Buenos Aires. His guests in Munich will find that his four- and six-course meals, with a choice of meat or fish, are inspired by cuisines from all over the world. Despite the international influences, Korean cuisine is his culinary mainstay. The restaurant is well-known for its special sauces, created by the chef himself. Mun received the Gourmet Award from the *Süddeutsche Zeitung* newspaper this year in recognition of his culinary skills. Congratulations!

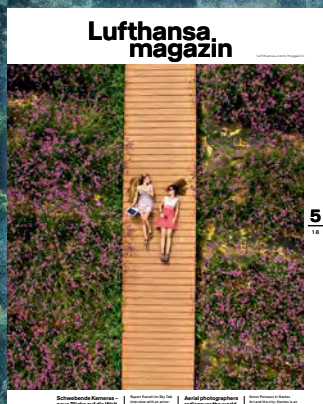
MUN – RESTAURANT & BAR

INNERE WIENER STRASSE 18, 81667 MUNICH



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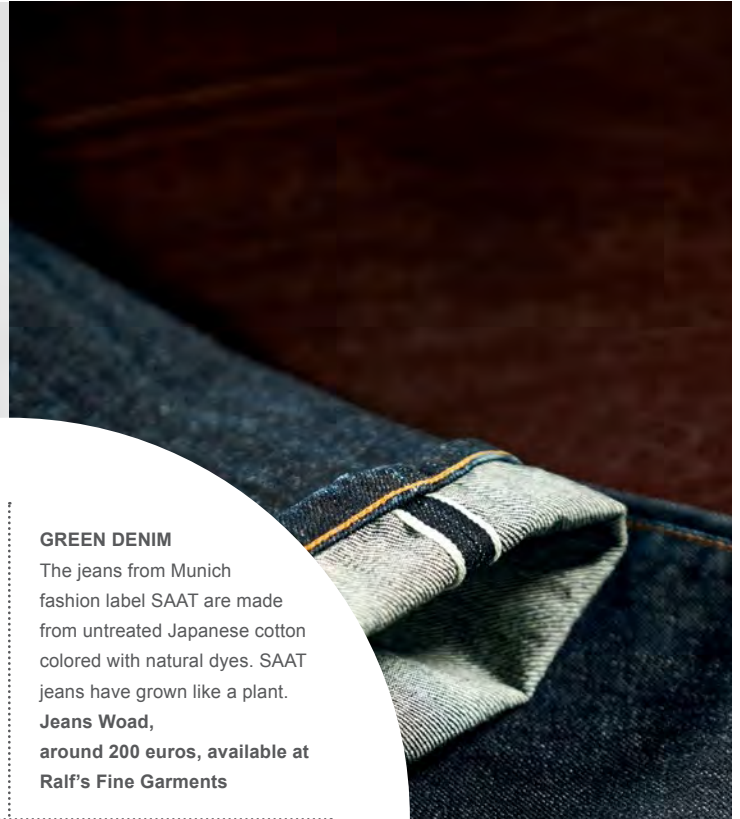
PURE ELEGANCE



TOTE CHIC

The Happy calf leather tote bag is the ultimate in minimalist elegance. The Munich designer Ayzit Bostan focuses on the essence of the aesthetics and creates timeless pieces that are sure to become favorites. **150 euros, available from Schwittenberg or at ayzitbostan.com**

MANUFACTURED



GREEN DENIM

The jeans from Munich fashion label SAAT are made from untreated Japanese cotton colored with natural dyes. SAAT jeans have grown like a plant. **Jeans Woad, around 200 euros, available at Ralf's Fine Garments**

CHILDHOOD IN A BOTTLE

The soda pop is called Eizbach, and harks back to the good old days. Manuel Schulz from Munich and his friends have created a delicious sparkling drink named after the famous Eisbach wave. **19.99 euros for 24 x 0.33 l bottles, available at drink-now.com**



DRAGON ON YOUR ARM

Munich designer Saskia Dietz creates subtle highlights with her jewelry. This porcelain Dami Drake bracelet was hand-painted on the Japanese island of Kyushu. **449 euros, available from Woman/Man or at saskia-diez.com**



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