



**CONNECT**

The Magazine of the **EDUARD KRONENBERG GmbH**  
Haan | Germany

**INSIDE  
SERVICE  
PRODUCT  
PEOPLE  
ARCHITECTURE  
LIFESTYLE**

**01**  
2020

Dear Readers,

This has been, or perhaps we should say this is still an almost global shutdown, the likes of which we have never seen before - and which few of us could ever have imagined. For the time being, the new reality of 'social distancing' caused by the all-determining pandemic is something we will have to live with and, of course, will have to accept. How difficult this is going to be in the future is something we probably only have a vague idea of at the moment.

This issue of EK Connect magazine reflects the discrepancies between the kind of normality we are familiar with and a new normality that we will have to get used to. We have therefore included a report on the EK risk management system that is now in place as a result of the new coronavirus. There is also a threat of a serious impact resulting from a worldwide recession. Unfortunately, this is all as real as our description of the renaissance of the use of timber in construction or how senior citizens keep fit playing video games.

We hope for the best, today and tomorrow. And we'll keep our fingers crossed that you stay healthy - and that includes all your fellow workers and friends at EK.

Your EK Team

## +++ NEWS IN BRIEF +++



### GERMAN DESIGN AWARD WINNER 2020

The EK stand at glasstec 2018 has received yet another award: the German Design Award is now the second distinction after the Iconic Award, which we received for our successful trade fair presentation. We are very pleased - and say 'Thank you' from the bottom of our hearts!



### BEE CREATIVE! EK's large-scale hands-on campaign for children

Buzz, buzz, buzz - busy bees are everywhere, collecting pollen for the production of honey. This inspired us to launch a large-scale 'bee a part of the action' campaign for all children in and around the EK community.

So children, under the motto BEE CREATIVE!, let your imagination run wild based on the theme of 'bees' and flowers, summer and sunshine. You can decide to paint great pictures, create something colorful, take fantastic photos or write wonderful stories and poems - it's entirely up to you. And the best thing about it all is that every child who takes part receives a jar of honey as a thank you - collected by our own EK bees.

Send your creations by e-mail or by post to EK by 30 June under the keyword BEE CREATIVE! And because a jar of tasty EK honey will be waiting for every participant, please don't forget to add your name and address!

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Pulling together to beat the coronavirus. For our employees and suppliers. And for our customers - with Business Intelligence.
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Postponed does not mean cancelled - why the new trade fair date is mid 2021. We use the time to go for a stroll through the new 'Ingenhoven Valley' in Düsseldorf.
- 6-7** — **PRODUCT: Saving steel ... EK is ahead of the game.**  
When it comes to saving steel, EK is ahead of the game. Punching, forming and bending millions of stiffeners is not a job for anyone. We explain why this is a job specifically for EK!
- 8-9** — **PEOPLE AT EK: In fokus: Annika Falk and Michael Kühl**  
EK employees: one dreams of the ultimate photo safari in faraway Africa. The other is looking for traces of his childhood in the Far East.
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Timber towers provide the evidence: timber is the building material with the greatest potential for development and an integral component of a new architecture.
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Who would have thought that the much-criticized computer games also have a good side? They do, quite simply because "playing video games" keeps the elderly mobile and improves cognitive performance..

## EK IN THE GRIP OF A GLOBAL PANDEMIC

Many things that were previously taken for granted at EK have now been overridden by the coronavirus. This includes the way we normally interact with colleagues, customers and suppliers. In the interests of our company and to protect everyone's health, we reacted quickly and introduced a comprehensive EK risk management system with clearly defined responsibilities.

This was also a result of our desire to maintain our services, production and delivery capacity to the fullest extent possible. However, because the health of all the members of our workforce and their families is our highest priority, we understand EK's risk management system to mean: "when in doubt, take action!"

### The current status of occupational health and safety at EK – as of May 2020

The working hours and standby times of all employees were adjusted to the new situation, taking into account further contact possibilities. For instance, every employee who is not required to be present in the company is given VPN access to work from home. At the same time, in order to reduce the risk of infection, in addition to all the usual social distancing rules, we have introduced more stringent hygiene standards and an absolute ban on travel and visitors.

### Ensuring customer satisfaction through data analysis using our Business Intelligence system

We share the concerns of our customers, especially those in the automotive sector, in the face of a global recession. For this reason, we support our customers with all the options systematic ERP data analysis makes available to us based on Business Intelligence. This includes trend analyses to control EK's workflow as well as effective organisational and sales-related measures implemented by EK and the weekly analysis of changes and trends in our customers' global markets using the EK risk management system.



Hygiene is given top priority at EK.



## AUS DER GLASSTEC 2020 WIRD DIE GLASSTEC 2021

Due to the corona pandemic, due to the worldwide travel restrictions, due to the numerous cancellations - in the end, the entire glass industry very likely expected glasstec 2020 to be postponed. A new date has now been proposed for the middle of next year. If things stay as they are, they say, then we'll see you at Glasstec 2021! Until then, we will have a little more time to stroll through the new Ingenhoven Valley in the city of Düsseldorf, which is now complete and has already been greened. Come and join us!

The majority of Düsseldorf's residents are not the only ones to have realised that it's really the façade that matters most of all. This is why 'Ingenhoven Valley', the new name, which stands in stark contrast to the sober architect's designation 'the Kö-Bogen II commercial and office building', is also very popular. The last of the tubs planted with hornbeam closed the remaining gap in the hornbeam hedges, which have a total length of eight kilometres, on 21 April - thus completing Europe's largest green façade. And on the roof of the triangular pavilion, there is a 1,200-square-metre lawn for Düsseldorf's sun worshippers



A green oasis in the heart of Düsseldorf.  
© Photo: ingenhoven architects



Kö-Bogen II in the evening. At the top of the picture are the 'Dreischeibenhaus' and the Deutsche Oper am Rhein  
© Photo: ingenhoven architects / CADMAN



## EK AUTOMOTIVE STIFFENERS – WHEN IT COMES TO SAVING STEEL, EK IS AHEAD OF THE GAME

**This contract was as good as signed in China: for the immediate production of millions of inexpensive, metal stiffeners. To be used to reinforce the control boards in the electrically powered front axles of hybrid vehicles manufactured by a leading German carmaker. In the end, however, the order wasn't there. EK produced the parts! Not in China, but in Haan. In NRW.**

Charging a hybrid vehicle  
© Photo: Boggy – stock.adobe.com

The production of this metal stiffener is due to the accelerated e-mobility of hybrid cars and the newly developed self-powered axles that have resulted. At low speeds of up to 30 km/h, the conventional transmission is disengaged, and the front axle is driven electrically. The electric motor required to do this is controlled via a control board, which is clamped firmly on each side by two metal stiffeners.

### 1.6 million workpieces p.a. – stamped in a ,two-out operation'

The specifications for this order from a well-known supplier of components to the automotive industry are quite something: over a period of around seven years, a total of 1.6 million tailor-made metal stiffeners are to be produced each year – each one provided with numerous precise indentations and forms. With dimensions of around 200 millimeters in length and 20 millimeters in width, more than 110 tons of steel strip each year run through a progressive stamping die designed and manufactured specifically for this purpose. This is a two-out die that produces some 5,000 components per hour. Each precision part discharged from the press needs to be cleaned before being positioned precisely by hand in the reusable trays of the handling system. This ensures that the robot has no problem picking up the workpieces with its gripper arm for the next step in

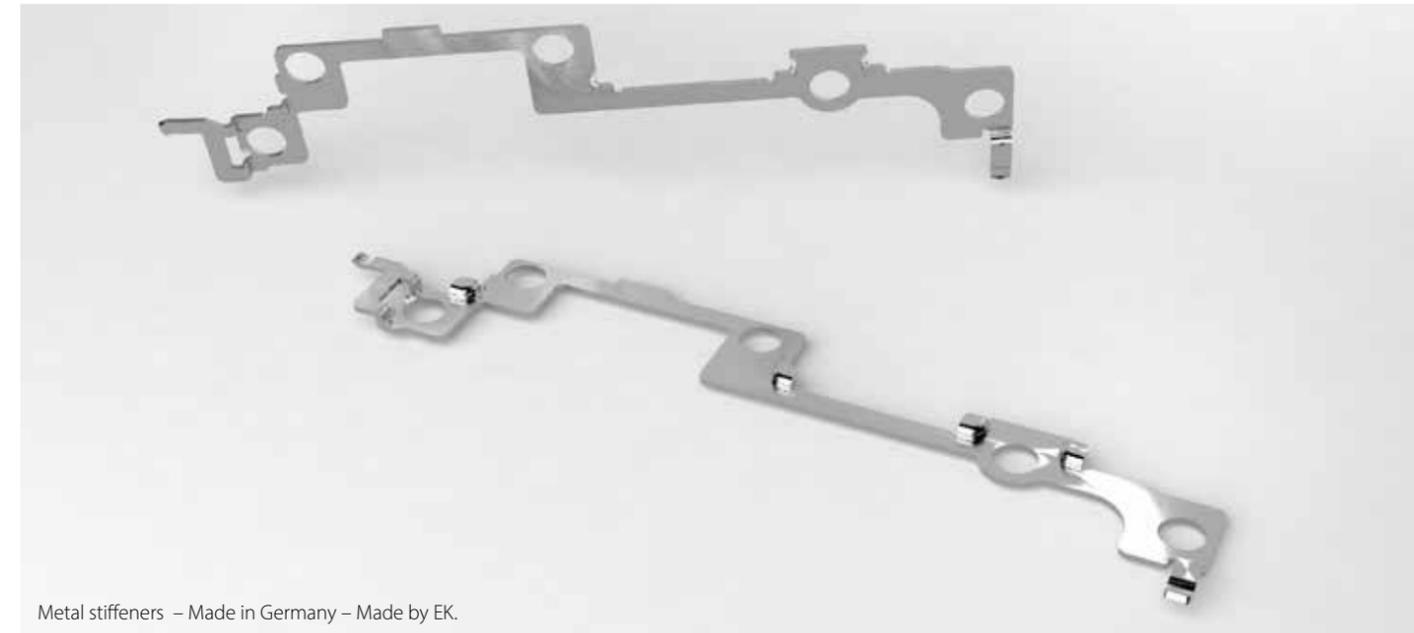
the production process and subsequent dispatch to the customer.

### It pays off – the professional expertise of EK's design engineers

EK's production expertise in stamped parts is also in demand when contracts are awarded. And when our designers analyze the specifications of the requirements, they recognise very quickly that the customer can save a lot of money in the choice of the right steel. This is because the two metal stiffeners are located inside the axle in an oil bath, which means there is no risk of corrosion - and the steel can be of a correspondingly lower quality than the customer's original assumption. Joachim Fohr from EK's technical sales department, who is responsible for dealing with the technical specifications of the enquiry, recognizes this is an area with savings potential for the customer. That's the first point – in favor of EK's design department.

#### EK progressive dies

At EK, complex progressive dies are used for the high-volume production of sheet metal components. Sheet metal strips are transported from station to station in such a die, where they are punched, formed, pierced and calibrated - until they finally come off the die as finished components in the desired shape.



Metal stiffeners – Made in Germany – Made by EK.

### Minimum material loss – thanks to EK's wealth of experience

The next challenge for EK's design engineers is to design the progressive die that will be used to give the metal stiffener its final shape. When it comes to determining how the metal strip is run through the progressive die to ensure as little scrap material is produced, however, our design department is unbeatable. The team of professionals knows how to optimize the strip layout so efficiently that the least possible loss of material occurs during the subsequent processing in the die. The sheet strip is fed through a total of 12 processing stations in the die, where, in addition to other operations, it is cut, bent and pierced, and after passing through a calibration station, where the accuracy of the dimensions is checked again, the finished part is cut off and discharged in a ,two-out' operation - i.e. two metal stiffeners leave the press at the same time. These optimized production processes and a correspondingly designed strip layout frequently give EK a competitive edge over its rivals in the marketplace.

### The added bonus – EK's proximity to our customers

We make the third point that benefits our order book is the regional proximity to our client. The trays in which the finished metal stiffeners are placed are designed as reusable packages. The principle is that, after the parts have been delivered to our customer, the empty trays are returned to us. The inserts of these plastic packages have thus been provided with specially designed fixing points to grip the product securely. For this reason, they are often referred to by EK's staff as ,chocolate boxes'. This is the only way to ensure that the products can always be removed by the robot arm from the same position. The inevitable back and forth between Hahn and China that would otherwise have taken place, in addition to the considerable time and effort, would have meant an enormous effort and a huge journey. And that's something we can reduce very easily for the benefit of the environment and our customer!

**IN FOCUS:**

**ANNIKA FALK AND MICHAEL KÜHL**

**Even though she has only been with us for just over 12 months, Annika Falk has known our company for over 20 years. Back then, the company she did her training with as an industrial clerk and the old EK building in Solingen were good neighbors.**

So now in Haan, things have come full circle as she's now a member of EK's inside sales team. What does one do there all day? Annika Falk doesn't hesitate for a moment: „Well, first I enter the order into the system and send the goods issue request to the dispatch department. I then check to see whether the goods are in the warehouse, otherwise I talk to production and ask them to produce the goods. When everything's been done and the goods are packed, I get the goods issue request back and prepare the papers, register the goods with customs if necessary or call freight forwarding.“ Her job is becoming a little more stressful every day, because getting the goods delivered in corona times is anything but easy. The shipment of goods to Italy, France and Poland, for instance, is becoming increasingly difficult to organize.

Annika Falk



As a result, the self-confessed fan of the Solingen Ohligs district where she lives („I'm an Olx ultra person!") is all the more delighted when she's back home in her cosy apartment located in an old building with an unobstructed view of the Galileum. „It's the fabulous new observatory," is her reaction to the prompt follow-up with a subtly hinted lack of comprehension. „The old gas tank! The new planetarium!" This is probably one of the most photographed objects in this small district, thanks also to Annika Falk, because she's a really enthusiastic amateur photographer with professional equipment she is gradually expanding piece by piece. She has already completed a number of courses at various photography schools, „You learn most from professionals," she says, and is very well versed in portrait photography. Her girlfriends are taking advantage of her skills, she says with a smile, and all want to have some nice portrait photos of themselves.

She herself dreams of combining her great passion with a second one - namely travelling the world with friends and visiting each continent at least once. Australia is the only one missing in her collection! Last year she visited Dubai, incidentally, which including a jeep trip over the desert dunes and a barbecue under a fairy-tale starry sky. And Dubai should be the same again this year. Although her biggest dream is still waiting to be fulfilled - an animal safari to Botswana. Not a day under 5,000 photos!

**Michael Kühl spent six years of his youth in Japan. Going from there directly to EK to join the international key account management team was more or less inevitable, don't you think?**

Well, explains Michael Kühl, he was in Japan with his parents, as his father's career had taken him to Tokyo. But it actually took him a little longer to get to our company: after graduating from high school in Bergisch-Gladbach, he went to Maastricht University in the Netherlands to study International Business and also took the opportunity to travel, completing an additional semester abroad in France, for example. Being always on the go, it's not surprising that he's acquired some language skills in the process: „English of course, French is quite decent, a bit of Japanese. And I understand Dutch too - but I don't really speak it well!" His career began to pick up more and more speed, most recently as product manager for a major equipment supplier to machine manufacturers and now finally, since August of last year, he's been given the job of looking after EK's major international customers from Europe, Asia and the USA in its glass business unit.

Michael Kühl and his wife have been living in Bottrop now for around five years. In the cozy atmosphere of their recently completed sitting room, they are planning what needs to be done next. From the undeniable realization that „the garden urgently needs to be tidied up," to the detailed planning of romantic motorcycle tours across Europe. What's needs to be done in the garden exactly? „We want to lay out our garden somehow as a mix of European and Japanese styles, surrounded by a bamboo fence certainly and perhaps in the middle a beautiful maple tree. It'll take some time, but at least I've got the bamboo for the fence.



Michael Kühl

Motorcycling is a newly discovered passion of Michael Kühl and his wife. Both ride big bikes, because anything else would be too boring for his wife and too small for him. You have to realize, of course, that Michael Kühl is well over six foot tall and a heavy Triumph Tiger Explorer with by a 1,200 cc engine is just right for him. „The furthest trips they have been on so far have been in the south of France and a tour through northern Italy. Covering 800 kilometres a day is quite OK on a bike like this one!" At some point, when air travel is possible again, Michael Kühl would like to show his wife where he grew up as a child - and also see if he can remember a road or two, a temple, or one of the beautiful gardens. At the top of the list is Tokyo.

# FINE TIMBER!

Initially below the radar, then in recent years increasingly visible to all building professionals: the timber house is experiencing a renaissance. Promoted solely by the desire to build in a more climate-friendly and resource-saving manner. Lighthouse projects such as the world's largest timber houses - HOHO in Vienna and Mjøstårnet in Brumunddal, Norway, which alternately outdo each other, demonstrate that those who haven't realized that renewable raw materials are the building material of the future are simply on the wrong track.

© Photo: cetus Baudevelopment GmbH und Thomas Lerch



Hybrid – also for building construction:

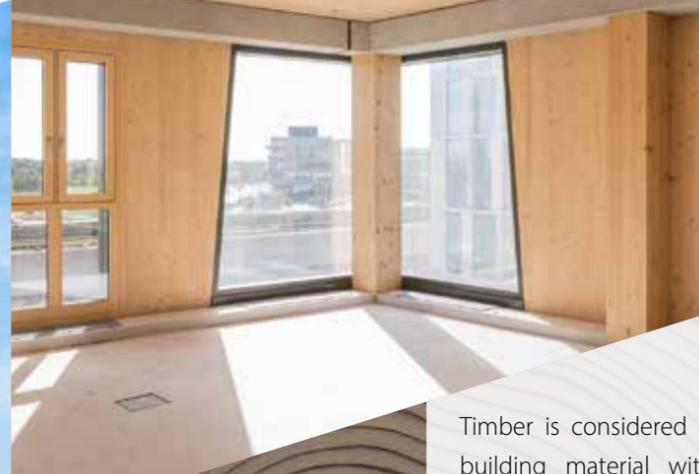
There is hardly a more climate and resource-friendly way to build than with timber. A single or two-family house made of timber, for example, produces between 35 and 56% less greenhouse gas emissions than a conventional construction, according to the findings of a GHG timber construction research project at the Ruhr University of Bochum. On the other hand, the processing of timber from tree to building material requires far less fossil energy input than the production of any other known building material.

the HOHO in Vienna is a mixture of timber and concrete.

In Germany, we have enormous quantities of this renewable raw material at our disposal. Eleven million hectares of forest in Germany represents 3.4 billion cubic meters of timber, with timber growing back at a rate of 80 million cubic meters annually. With an average timber harvest of only 70 cubic meters a year in local commercial forests, this represents a significant increase year for year. According to model calculations, just over a third of this timber harvest would be sufficient to construct the entire annual volume of new buildings in Germany entirely from timber.

### New rules make timber construction easier

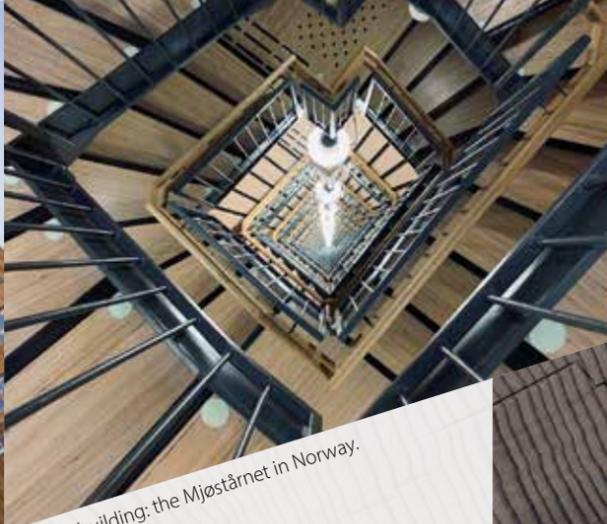
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© Photo: Voll Arkiteketer AS/Øystein Elgsaas



The world's tallest timber building: the Mjøstårnet in Norway.

Timber is considered by building experts to be the building material with the greatest potential for development and an essential component of a new architecture. As a result of modern skills and technical progress, more and more resource and energy-efficient timber structures are now being built - and larger dimensions are now becoming possible, also in terms of height. And where local building regulations are adapting flexibly to the current climate, residential, office and commercial buildings are being extended beyond the high-rise limit. The first tenants are already moving into the HOHO in Vienna, for example - the high-rise is competing with the Norwegian Mjøstårnet for the title of the world's tallest timber building!

A lot of timber went into the construction of the HOHO - a total of 4,500 cubic meters of untreated spruce. According to the project management, the amount of timber used grows back in Austrian forests in just one hour and 17 minutes. And compared to a conventional concrete construction, the timber construction saves a total of almost 3,000 tons of CO2.

### HOHO

The HOHO in the 22nd district of Vienna, located roughly 15 kilometers from the city center, is a record project. With a height of 84 meters and 24 floors, it is the highest (or perhaps only the second highest?) high-rise building in the world made of timber. A hybrid construction method was used: 75 percent of the high-rise building is made of timber, while the core structure is of reinforced concrete. The solid timber ceilings are also supplemented by a thin layer of concrete. The use of precast elements also minimized the construction time.

### Mjøstårnet

Construction work on the Norwegian project Mjøstårnet began in April 2017 and its completion announced in March 2019. The timber high-rise is located in Brumunddal and is 85.4 meters high. This means that Mjøstårnet is today considered to be the world's tallest timber building! However, it only has 18 floors ... Instead of timber, concrete slabs were used on the upper seven floors to reduce wind-induced vibrations.

## ARCHITECTURE

### „Woodie“ student halls of residence in Hamburg

What is currently the world's largest residential project in modular construction with student apartments is located in Hamburg. A total of 371 prefabricated living unit modules are stacked for five or six upper floors on a concrete table. The exemptions granted in the fire protection certificate for the construction of the load-bearing walls and ceilings in timber set a precedent in Hamburg, which has opened the way for a change in the state building regulations. Hamburg has thus become the second federal state in which allows buildings of up to 22 meters in height (Building Class 5) to be constructed of timber.



© Photos: Jan Bitter, Berlin

### Residential and commercial building in Leipzig

The residential and commercial building - apart from the staircase core - is built as a solid timber structure and demonstrates that buildings in accordance with Building Class 5 can also be designed and constructed of timber in a convincing manner. The column and beam construction made of glued laminated timber forms a flexible envelope with the horizontal strip façade. This enables the owners of the building to design the layout of the residential and commercial areas individually. The façade made of pre-greyed larch cladding with sliding shutters and horizontal aluminum bands further emphasizes the building's unique character.



© Photos: Peter Eichler



© Photo: Jan Bitter, Berlin



© Photos: Thomas Eicken



### Jena-Holzland forestry authority in Stadtroda

The two-story building has a classic load-bearing skeleton frame with a timber-concrete floor and beech veneered plywood ceilings. This material has higher bending, tensile and compressive strengths than soft wood. The timber lamellas on the outside provide shade and give the building a clear horizontal emphasis. The combination of both proven and new materials shows what timber can achieve as a renewable and economical building material.

## SENIOR GAMERS: PLAYING VIDEO GAMES TO COMBAT DEMENTIA

**They pop up in reports at irregular intervals telling of the perils of old age: ‚silver gamers‘ in front of computer games and PlayStations. With witty headlines such as ‚Don’t forget your game‘, they point to an enormous issue that affects us all as a society: in Germany alone, there are already around 1.7 million people living with dementia. In contrast, so-called „health games“ promote and maintain mobility and cognitive performance in old age.**

Every year, 300,000 new cases of dementia are reported – with almost one in six of today’s 80 to 84-year-olds forced to live with what are in some cases serious limitations. By 2050, the number of people suffering from dementia could rise to three million. And computer games such as the notorious shooter game ‚Counter-Strike‘ are said to offer the potential for a solution by compensating for the degradation processes that occur in old age. There you have it. The idea isn’t even that new, but it’s certainly more relevant today than ever.



### First scientific evidence: ‚shooting‘ makes brain regions in youngsters more effective

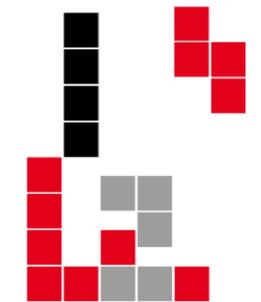
As early as 2009, French neuroscientists investigated the effects of first-person shooters (computer games in which virtual opponents have to be eliminated) on the brain activity of young test participants. The results were surprising: after eight weeks of training, the first-person shooter players were able to recognize minor details and different shades of grey more precisely, were more decisive and more concentrated than a control group of non-players. In short: their brains functioned demonstrably more effectively.

### Second scientific evidence: Super Mario causes brain regions to grow in young adults

The Berlin Max Planck Institute for Human Development took up this approach in 2013 and had a group of young adults play the well-known video game „Super Mario 64“ for at least 30 minutes a day for two months. At the end of the game phase, both the video gaming group and the control group, who didn’t play video games, were given a magnetic resonance imaging (MRI) scan. The research scientists identified significant structural changes and an increase in grey matter in crucial brain regions: Specifically, in the hippocampus, which is essential for spatial orientation, in the cerebellum, which is necessary for fine motor skills, and in the right prefrontal cortex, which is important for strategic planning.

### Third scientific evidence: areas of the brain in older people are increasing

In a follow-up study in 2014, the Max Planck researchers examined what this could mean for the elderly. How could a game improve the self-control of senior citizens, who often hesitate to stop taking action at the last moment? Together with game developers from the Berlin University of Applied Sciences, the researchers designed a game they called ‚Ship ahoy‘ –graphically elaborate and responsive, i.e. with automatic adjustment to the level of the players. The task: at a virtual cruise ship buffet, senior gamers are asked to place as many delicacies on their plates as possible. The problem: every now and then sunglasses or flip-flops appear in the buffet. To prevent them from landing on their plate, players have to react quickly before making the wrong choice. The result: after eight weeks, the players not only showed a significantly improved self-control, but also a significant growth of brain areas in the prefrontal cortex..



### New ideas to promote cognitive performance in old age

Developing ‚health games‘ for older people is demanding: the games should be fun and support therapies to improve balance or coordination. But their development takes a lot of time and requires intensive scientific support. This is the reason why health insurance companies are still reluctant to support them, despite scientific recommendation. Several years ago, the Hamburg-based start-up RetroBrain R&D took a gamble that paid off with the professional support of medical doctors and dementia researchers as well as Microsoft and the Barmer GEK health insurance company on the investor side. The company is developing ‚Memore‘, an Xbox-based game console controlled solely by gestures and movements. With ‚simple‘ games, the elderly can train their balance, fine motor skills and coordination. By shifting their weight from one leg to the other, for example, they maneuver a motorcycle through city traffic or steer a bicycle while at the same time having to be right and left-handed like people delivering the mail. While riding the bike, of course! This is a great technique that helps seniors to improve their spatial thinking and fine motor skills at the same time. So, getting into video games early is highly recommended for the elderly and free of side effects. Ask your doctor or chemist ... or your grandchildren!

START GAME

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