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Nanography.

Digital Printing for Mainstream.



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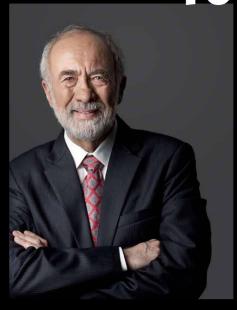
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More trees! The world's forests absorb around 2.4 billion tons of carbon each year.

That's a third of the carbon released from burning fossil fuels.

EDITORIAL



More!

How should we move on? How can we make a difference? Do we need more of some or less of something else? I like the idea that more good will leave less space for bad. Digitization presents much potential. New thinking is required, new ideas and the courage to hold on to our values in these times of change. When the world spins faster and faster, we have to pause every now and then. Especially now the world is changing unexpectedly and faster than we ever imagined.

Drupa 2020 was meant to be the international highlight for the printing industry this year, but faced with a worldwide event at a scale our generation has never experienced, everything is turning out differently. The opportunities of digitization may offer some cause for optimism. What do we need now? More cohesion, more hope and positivity for the future. For example, by looking forward to drupa 2021 – off to Düsseldorf (p. 38).

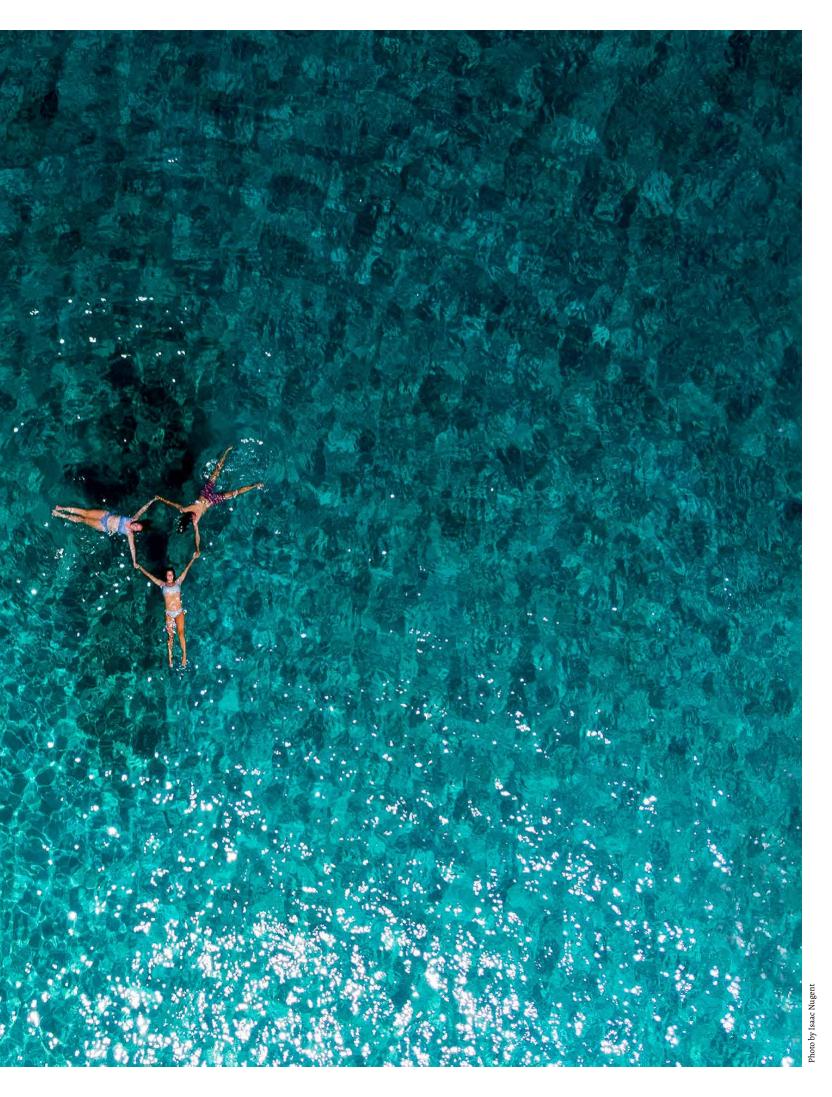
More sustainability: Weleda proves that ambition and values are not a contradiction (p. 14). More knowledge: "The more you know, the easier it is to understand what you don't know," says Prof. Dr. Nils Högsdal from the Media University — and he knows a fair amount (p. 26). More freedom: Coworking spaces are seen as labs for a new world of work that promises more independence and flexibility, more community, and also freedom; that sounds and looks good (p. 34). More innovation: 30 years ago, Benny Landa revolutionized the world of printing with indigo digital printing and electro ink. Now, he has done it again — with Landa Nanography. And Benny has a lot more plans (p. 40).

When a color expert talks to a packaging professional, common ground is quickly found: the future of the packaging industry is predictable. This is exciting, because it brings several topics to the fore at the same time – more efficiency, more digital printing, more multicolor printing (p. 46).

I hope you enjoy the new TrueColors!

Robert Weihing
Co-Founder GMG GmbH & Co. KG







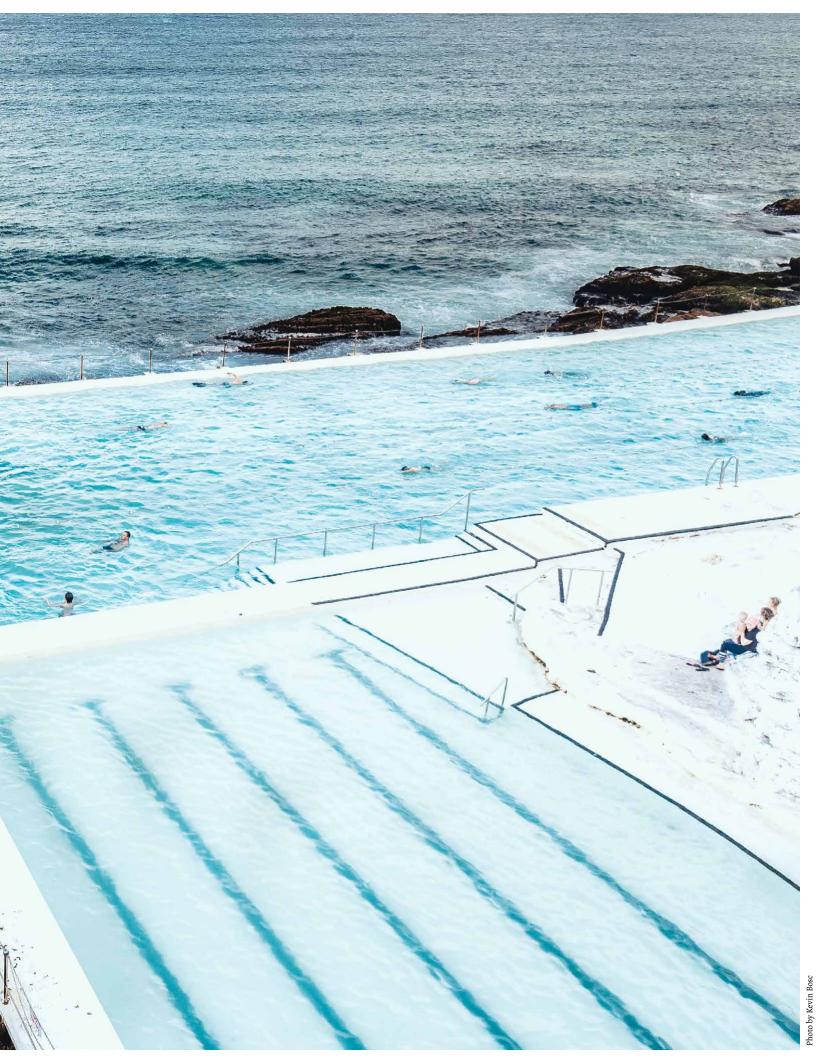
\bigoplus TrueColors

A beach holiday only knows one view: the gaze into the distance, the vast sea, a place of dreams. When out at sea, the focus turns back to land. The narrow line in the distance always wins against the vastness. One thing is certain: a change of perspective will broaden your horizons. Not just on vacation.











More Tweets?

Seriously? Does anyone wish for more voices online? Yes – why not? But there's only one condition: the voices must reflect a real diversity of opinion. Just like the birds greeting the day at sunrise – and each with their own melody.

Speech bubbles with synchronized chirping of hate, lacking any real arguments ought to get burst. Especially in a globalized pluralistic world, the diverse possibilities for responsible exchange and participation are a tremendous asset. After all, digital communication offers enormous potential here. It is a great tool for transporting content, raising questions, developing solutions and thus delivering real relevance.

So, more tweets? Generally, 'more'? Is this still a legitimate request? Has 'more' given up its position to 'less'? During an economic boom, more was always deemed to be better. But is this still the case today? In a time of change? In a time where trends like reduced consumption, veganism and non-alcoholic cocktails, digital detoxification and dopamine fasting are gaining support?

On the other hand, doesn't the 'less' taste somewhat bland? Abstaining, avoiding, asceticism, monastic silence – who can keep this up long-term? Exactly. Psychologists and motivational trainers know a simple trick: replace a bad habit with a good one. Abstinence isn't followed by emptiness and, instead, we experience something new and possibly even more rewarding than before.

So, 'more' achieves more. For example, it breeds more enthusiasm, community spirit and purpose. So instead of being negative about meat consumption and focusing on how bad meat is for the carbon footprint, pushing your mashed potatoes and

tasteless steamed vegetables around your plate opens a new door: you experiment with meat substitutes made from mush-rooms, buy vegetables that have never been on the shopping lists before, or take part in an Ayurvedic cooking class. Or why not organize a Greta Thunberg inspired 'Come Dine With Me' with your friends?

There are other ideas, for example, from the sharing economy: cars, apartments, laptops, clothing, tools – most things can be shared today. Less truly means more and opens up enormous opportunities. Those who dare to say "I want more" – more positive effects for the individual and society at large – will be happier than those who simply look to curb and to abstain, and always think "I should do less...". Say hello to the glass half full.

Yes, we do need change – even if it occasionally arises quicker than we like, it comes at a pace that is difficult to handle, but rest assured, we adapt soon enough. And more often than not, when we embrace change positively, we discover unexpected benefits: more genuine encounters, more depth, more flexibility and appreciation of our environment and natural resources. Or – to stick with the bird metaphor – more diverse voices. Let the songbirds tweet louder than the crows ready to pounce on vulnerable victims. Enriching, stimulating birdsong, with many rich and unique voices, is always welcome on the world wide web.

MORE: SUSTAINABILITY

To Be a Strong Brand is One Thing, To Do a Good Job is Another

The natural cosmetics brand Weleda shows how sustainability can be part of a brand's makeup – and proves that success and strong values are not contradictory.

ichael Straub stands in the greenhouse, surrounded by dwarf pomegranate, avocado and prickly pear. But this morning the focus is not on the exotic plants in the Weleda healing garden, but on a small, inconspicuous plant in a glass showcase. Its roots grow deep into the ground, ten times the size of the crop in fact. The opposite would be true if the plant was fed fertilizer: the crop would outgrow the roots by a multiple.

Just as the plant anchors its structures firmly into the ground, Weleda does so too – an apt parallel to the core philosophy of the natural cosmetics manufacturer. They tackle things at the root, and don't regard sustainability simply as a matter of saving electricity.

The garden Michael Straub is standing in isn't a show garden – the plants that grow here will eventually be the heroes in many Weleda products. The head of the medicinal plant garden is in his element. It wasn't that long ago that he was seen as a bit of an odd bird, by colleagues and the public. Going green wasn't always hip.

Now the same people can't get enough of biodynamic agriculture. Farmers and lay people alike; take the lady who recently asked Straub on a guided tour whether biodynamic growing would also be possible on her balcony. "Of course," said Straub encouragingly.

Weleda is about much more than cosmetics; the brand evokes natural ingredients and sustainability. According to the annual business and sustainability report, the company is committed to healthy soil, sustainable packaging, waste reduction, ethical procurement of raw materials, cost transparency and improvement of the carbon footprint.

Plenty of resources, commitment and effort are dedicated to achieving all of this. This is evident in Schwäbisch Gmünd near Stuttgart where around 1,000 of the 2,500 employees of the Swiss company work. Anthroposophical corporate culture not only focuses on production but also on employees: intercultural seminars or eurhythmics are just as much a part of this as employee involvement when a new shift model is developed.



 $A gricultural\ scientist\ Michael\ Straub\ learned\ everything\ he\ knows\ about\ medicinal\ plants\ at\ Weleda.$



For Stefan Siemer, the medicinal plant garden is a place of natural energy. He works to ensure that Weleda achieves its own sustainability goals.

But how sustainable can a modern, global company be? "This is probably the most difficult question you could ask," says Stefan Siemer, the manager of the Weleda Group sustainability department: "it's all about having the least impact on the environment." And what it all boils down to is always the question: "What would the world be without Weleda? Would it be better or worse?"

Of course, for the traditional company and for Siemer, who has been coordinating the sustainability program for two years, a world without Weleda is unthinkable. Financial success is not their only concern. Caring for employees, nature and society is at the heart of Weleda's mission and has been at the core of the business since it was founded nearly 100 years ago.

The history of Weleda AG began in 1921 in Germany and Switzerland. It was created as part of a merger of two companies. One of the two founders was Rudolph Steiner an anthroposophy pioneer and founder of the free Waldorf schools. Steiner focused on the manufacturing of pharmaceutical products and natural cosmetics with a holistic view of people, society and nature. Within a year of the merger, the Weleda range comprised of 120 different products.

Global demand for anthroposophical medicinal products and natural cosmetics rose quickly, and several Weleda subsidiaries were founded. The first in France, in 1924; the Netherlands and Great Britain followed in 1925; the following year Austria and Czechoslovakia, and the USA joined the Weleda family in 1931. Then Brazil, New Zealand, Russia; today the company operates on almost every continent.

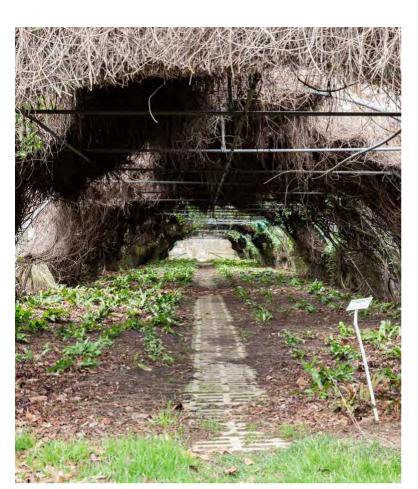
The medicinal plant garden in Schwäbisch Gmünd also grew with the company. Today it extends over 23 hectares and is the largest of its kind in Europe. "We have 1,000 plant species, and harvest 120 of them," says Michael

Straub. Diversity seems to have no limits here. This is made possible primarily due to biodynamic agriculture. The plant garden has its own compost and seedlings are

There are no pesticides but animals, birds and countless insects.

grown here too. The fertilizer comes from the neighboring cattle farmer, there are no pesticides, but there are animals – birds and countless insects such as hoverflies, Ichneumon wasps, lacewings and ladybugs that populate the sea of flowers in spring and autumn. The garden as a living organism is Weleda's answer to climate change and the extinction of species.

Straub has been chief gardener at Weleda for 22 years. He studied agricultural science, but everything he knows today about medicinal plants and their special cultivation, he learned at Weleda. "Learning by doing", he says. The knowledge has been passed on at Weleda for decades and can't be found in any textbook. "If there is such a thing as a dream job, I found it."



Parts of the medicinal plant garden are used for continuous experiments. For example, natural forest conditions are being re-created to research and study plants.



Everything is cultivated at source: The fully-grown plants are processed into Weleda products.

When walking across the grounds, you see flowerbeds, ponds and research fields. Collecting herbs in the wild has become much more difficult, which is why the gardeners have recreated the forest. "The term 'species-appropriate' doesn't only apply to animals," says Michael Straub pointing to the largest field.

It stretches over one and a half hectares – more than two soccer fields – and turns into an orange sea of flowers every June: Calendula (also known as marigold) as far as the eye can see. Calendula is commonly used as an essence, for example for wound care, and is found in numerous lotions and medicines.

The pickers start their work early in the morning, so that the freshly picked plants can be processed at noon. Especially for the pharmaceuticals, this process needs to happen as quickly as possible to prevent any loss in quality. When the calendula plant is delivered for tincture production, an employee will first check the plant. The employee cleans the calendula before the cutter crushes it into a pulp. An ethanol-water mixture is then added. The mixture ripens for a few days under a cover. Then, the mass is pressed and bottled. After a further ripening phase, the tincture is ready to be used. Embracing the manufacturing methods from anthroposophical medicine, Weleda produces most of its medical products by hand.

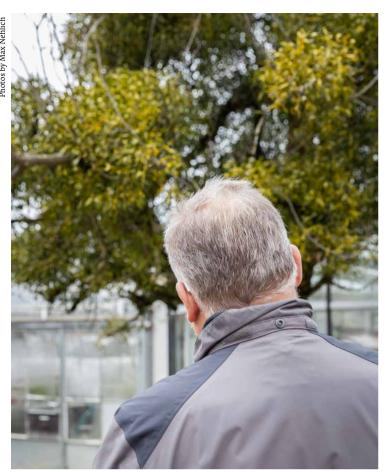
The natural cosmetics range in contrast is produced using the most modern machines. Before they end up in the tube as a lotion, for example, the calendula flowers go through a number of stages: First, to produce the plant extracts, the calendula oil is combined with an ethanol and lavender oil blend. This so-called lavender spirit is used to remove the active substances from the calendula flower. Then fats, oils and waxes are melted in the fat melt and mixed with zinc oxide, essential oils and plant extracts. Not little tincture bottles, but large stainless steel vessels dominate the production hall.

The production is a successful combination of traditional and modern methods. "You can't lose sight of your identity," says Michael Straub. This balancing act seems to be one reason for Weleda's success. To date, many of the

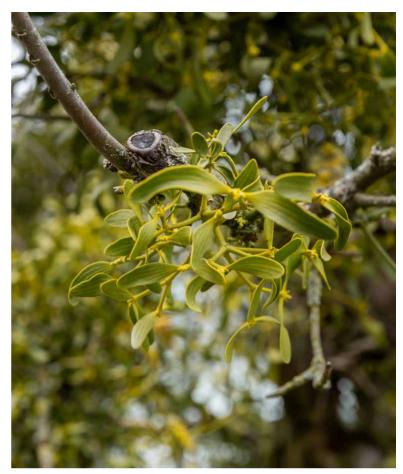
classic products are produced from original recipes. The Skin Food cream is one of those. Since 1926, the recipe hasn't changed. And that's appreciated – increasingly also by younger audiences.

Weleda's production is a successful combination of tradition and modern practices.

"Skin Food is a classic example. The cream is an insider tip among make-up artists. Hollywood celebrities use it and recommend it to each other", tells Stefan Siemer. On one hand, Weleda stays true to original recipes when it believes they simply can't be improved, on the other hand, it continues to innovate. After all, we want to keep growing.



Around 1,000 plant species can be found in the medicinal plant garden in Schwäbisch Gmünd. Michael Straub knows them all. The old apple tree ...



... and the mistletoe that is at home here.

In any case, the outlook is positive. Natural cosmetics are booming. In 2019, Weleda had sales of around 429 million euros, 17 million up from the 412 million of the previous year.

The Skin Food cream is an insider tip – Hollywood celebrities use it and recommend it to each other. Only a quarter of sales are attributed to pharmaceuticals. Although pharmaceutical sales are steadily falling, natural cosmetics are forecasted to grow again in 2020.

Natural cosmetics have become popular worldwide. "We are grow-

ing very strongly in Russia and the Ukraine. There is a very high level of quality awareness and an enormous appetite for authentic brands that deliver on promised quality," says Stefan Siemer. "In 2018, we saw an increase in sales of 29.7 percent in Russia, and 74.7 percent in the Ukraine. Even in the USA and Asia, people are looking to buy high-quality natural cosmetics from Germany and Switzerland," he adds.

Conventional cosmetics manufacturers have also recognized that consumers are increasingly demanding natural products and are trying to jump on the bandwagon. Although the market share of natural cosmetics in Germany is just ten percent, one aspect is exciting, according to Siemer: "The conventional cosmetics sector is hardly growing at all. It's losing its market share to natural cosmetics and near-natural cosmetics, because both of these segments are growing."

For brands like Weleda, it is therefore important to stand out even more and to focus on brand values. Being a strong brand is one thing, doing a good job is another. And that means having less of a negative impact on the environment than others. Their success in the intermediate helps them focus on their long-term vision.

"We are in a good place. In fact, we possibly have the best sustainability image of all brands in Germany. But in some areas, particularly mobility, logistics, climate protection and packaging, we aim to improve further", says Stefan Siemer.

The challenge is particularly evident in sustainable packaging. An issue we want to improve on. For a whole year, two in-house specialists dedicated themselves exclusively to find a solution.

While the folding boxes and inserts are already completely sustainable, the situation is different for tubes

and bottles containing creams and oils. Weleda's total recycling share in 2018 was 28 percent. The aim is to increase this to at least 65 percent by 2022. Many of the 120 natural cosmetic products therefore come in plastic or aluminum tubes

For a whole year, two in-house specialists dedicated themselves exclusively to finding a solution for sustainable packaging.



High quality: The production remains a combination between traditional and modern methods.



Sustainable packaging can also look appealing.

and glass bottles. "From an external perspective, glass has the best sustainability image, followed by aluminum, then plastic. However, the truth is that in most cases plastic presents better ecological properties", says Stefan Siemer.

It would be so simple if it wasn't for practicality. Skin oil in an aluminum tube, or shampoo in a glass bottle? It just doesn't seem sensible. "Imagine if a glass bottle would drop and break in the shower?"

No waste, no harmful effects for people or the environment.

And there we are – back at the philosophy of "less negative impact". The process of continuous improvement is a choice. "In summer 2019 management decided to create, a long-term packaging vision forming a strategic basis for medium and long-term

goals," he emphasizes. In the future, Weleda packaging should meet three criteria: "Zero waste, zero harm and 100 percent consumer relevance." No waste, no harmful effects for people and the environment after use, without compromising on design. A pilot project is already underway but it's top secret.

It will always be a compromise. The only thing Stefan Siemer can say to any doubting consumer is: "Simply consume less." That's potentially a controversial statement for a consumer goods company. "Of course, we are happy when our products are bought and when we see growth. However, our sustainability goals only allow us to grow organically anyway. Growing too fast would require us to expand at a rate that would be unsustainable with our vision and core values. In the end, the solution may have less negative impact – but it will be more sincere.

Color management and proofing solutions from GMG help ensure that Weleda's packaging is always produced in exactly the right colors.

WHO SAID IT?



La créativité demande du courage

HENRI MATISSE



Living

Venturing out, exploring, experiencing – whether that means swaying gently in a rocking chair or racing on a bike through the forest. Embrace life and its adventures. How about taking an ice-cold shower? Far too adventurous! But we can always agree on the color of the soap.



04





01 Trail running shoe, Cloudventure Waterproof with extreme cushioning, 179,95 Euro, www.on-running.com
299 Euro, www.masterdynamic.com
03 Pure vegetable oil soap, Melos Bio, packed in transparent film made from renewable raw materials, 1,70 Euro, www. speick.de
04 E-Gravel Bike, Gran Gravel 6, SHIMANO-STePS-DU-E7000-drive with 60 Nm, 4.799 Euro, www.husqvarna-bicycles.com
05 Functional backpack, Ruben, made from recycled polyester with a waterproof TPU coating, 18 liters, 169 Euro, www.sandqvist.com
06 Rocking chair, CLICK series, plastic slats on a powder-coated frame, runners and armrests made of bamboo, 399 Euro, www.houe.com

Hey, What Are You Up To?

Creative minds explain



DENKENDORF: Alina Menzel and Birgitt Winkler (from left to right, design & product development OBJECT CARPET)

What drives you? Movement – standing still is boring – developing ideas, having fun at work with colleagues. What is particularly important to you? Loyalty and setting trends. Developing ideas. Why do you love what you do? In a word; diversity. And of course the fact that I am able to earn a living from doing what I love. That's something we are very grateful for. How do you deal with the topic color? Color is like the air you breathe. It inspires us, it calms us, it can manipulate us – that's why it is so vitally important. When is a project a good project? When everyone enjoys it and our customers feel happy with the result! We create spaces to feel good in! What do color and design mean for carpets? People spend about 90 per cent of their time indoors. That's why the right room design is so crucial for our well-being. At home, everyone has the opportunity to design their rooms so that they feel comfortable in them. This is now also being recognized in work environments. Planners and designers of office spaces are now much more focused on the users. As a result, we see commercial spaces that are not only functional but also feel comfortable. Our designs and colors offer endless possibilities.





LONDON: James Shaw

I am a designer, maker, artist, somewhere in between these three worlds. Plastic waste is probably the area I am most known for. For me colour is central to my work, providing joy and atmosphere but also meaning to the different materials. Last year I was given a ton of plastic which had been contaminated to a sort of teal green colour, this plastic had mostly been milk bottles in its previous life and the contamination came from too many of the colored lids which indicate full fat, half fat or fat free. In the UK full fat and half fat are blue and green while fat free is red so the fact that the plastic was contaminated to this blueish green indicates the nation's preferences for milk.



STUTTGART: Virginia Romo

Colored pencil, watercolor, ink, make-up, analogue or digital – as a fashion illustrator, I work with numerous materials and techniques. Of course, the topic of color also plays a major role. In general, I like to work with black and only one additional color, so that the color really stands out and becomes 'star'. Depending on the job, the pace at which I draw also varies. If I don't work on projects for brands, I draw guests at events or smaller gatherings. The guests queue to take their pose for me to draw them, which I do in the shortest possible time. They take the illustration home as a very personal memory of the event. The excitement when people recognize themselves, their style and pose in the drawings makes me happy every time. What fascinates me about my job is precisely this variety. I'm allowed to immerse myself into other people's worlds and experience exciting encounters in wonderful places. I love this limitlessness – because my drawing style is by no means limited to fashion and clothing. It is a genre that contains much more than the obvious and it can be applied to numerous areas of our being.

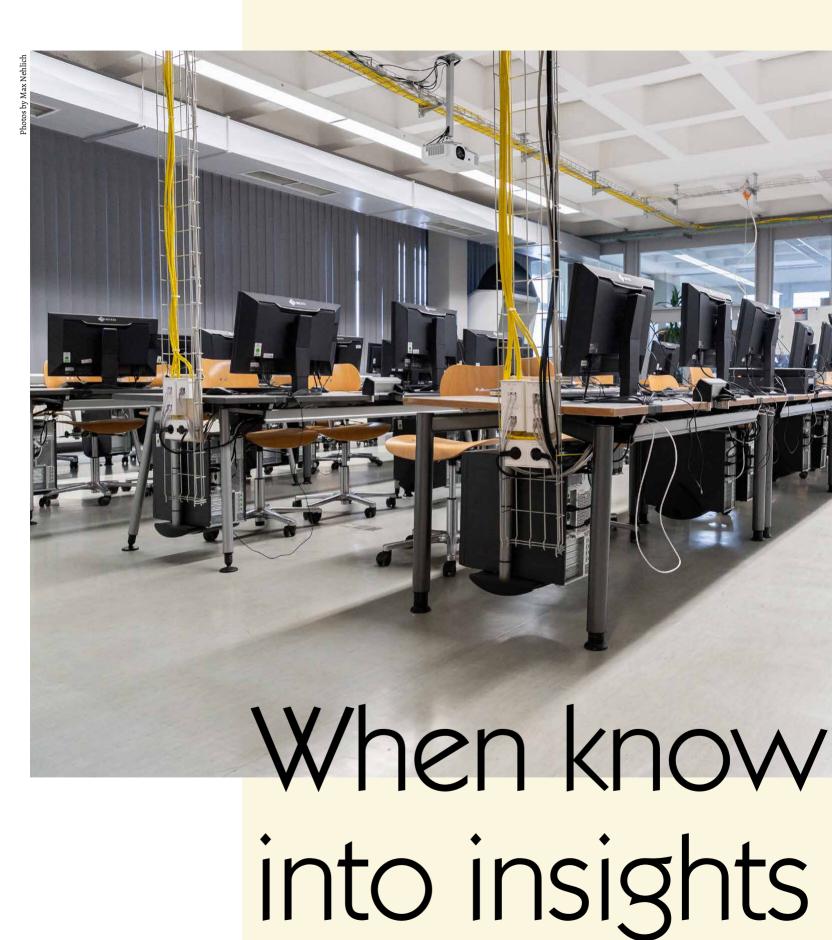


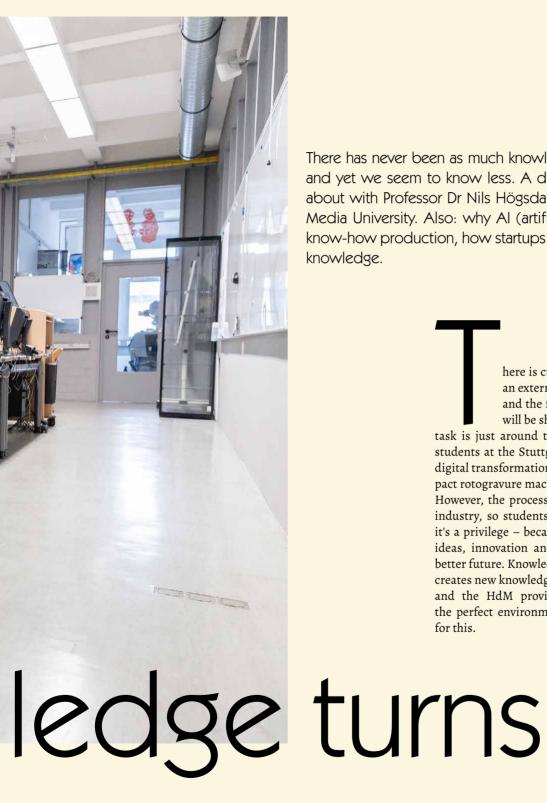
STUTTGART: Coco Seizer

I am Coco Seizer and I am in love with my dried flowers! I'm extremely passionate about them, which is why I have founded the 'Dried Flower Bar' by Cocornershop. At my flower bar you can create to your heart's content, pick the colors and structures of the flowers and arrange them together exploring different looks and styles. The range is vast. Lush fluffy pampas grass that likes to grow up to 1.5 meters tall, in natural colors to bright pink. But also, delicate ornamental grasses in pastel tones that exude a very special magic. Bleached cereals are also very popular. I am always amazed at the wonderful color combinations. I get the greatest pleasure from the enthusiasm of my customers. They are so happy with the very personal look of their dried flower arrangements, especially as they know they have created something sustainable, as a dried plant lasts forever. In contrast to a cut flower, dried flowers are practically imperishable.

Photo by Marta Popows

MORE: KNOWLEDGE





There has never been as much knowledge in the world as today and yet we seem to know less. A dilemma that we have spoken about with Professor Dr Nils Högsdal, Vice-Rector of the Stuttgart Media University. Also: why AI (artificial intelligence) is changing know-how production, how startups think and why we need meta knowledge.

> here is currently a standstill. The test run for an external company has just been completed and the five ink units are now idle. The quiet will be short-lived, however, because the next task is just around the corner: knowledge sharing with students at the Stuttgart Media University (HdM). While digital transformation is everywhere on campus, the compact rotogravure machine seems like a relic from the past. However, the process is indispensable for the packaging industry, so students need to learn about it. Or, rather, it's a privilege - because knowledge is like a fertilizer for

ideas, innovation and a better future. Knowledge creates new knowledge and the HdM provides the perfect environment for this.







"The more you know, the more you realize you know nothing at all", Professor Dr. Nils Högsdal on the paradox of knowledge accumulation.

Existing knowledge, like the current curriculum on gravure printing, only serves as the basis for more. In fact, according to Nils Högsdal, it is about "concepts, tools and methods, with which knowledge can be acquired and kept relevant". Högsdal, who holds a doctorate in the transfer of knowledge, is a professor and Vice-Rector at the HdM. He is well connected in the start-up scene, which is synonymous with new ideas and knowledge.

Knowledge is becoming obsolete faster than ever

"Knowledge is increasing massively, but when the students are done here, a third of their knowledge is already obsolete," summarizes Högsdal. This may be irritating at first, but in fact the half-life of knowledge is continuously reduced. That's why the HdM has recently been devoting itself to further training in form of part-time master programs that refresh scientific expertise, in the field of data science, for instance.

In addition to lifelong learning, meta knowledge is of central importance – the ability to understand correlations, to evaluate new findings and to question them in depth. "I have to be able to interpret data and information." Both are the basis for knowledge, but not knowledge itself. "It has never been so easy to get information," says Högsdal. "But opening a search engine does not create knowledge. Besides, it's important to remind oneself that Google and Co. select and prioritize search results. "The more information is gathered online, the more precisely you have to evaluate the results, knowing search strategies, identifying reliable sources and structuring and interpreting search results are invaluable skills. "We teach these skills, and they form the basis for everything else that follows."

Knowing about knowledge is one of the most important skills of all – in all industries, all professions and areas of life. But: "We are facing the phenomenon of opinion-based knowledge," says Högsdal. An elegant paraphrase for the fact that many contemporaries question the evidence of scientific knowledge and replace it with perceived, simplified, anecdotal truths. "As scientists, we have a huge responsibility, we have to engage with the public and share our knowledge. Cooperation with adult education centers could be a good approach. At the HdM we are very open to such projects."

Knowledge in times of Al

Will artificial intelligence diminish the value and relevance of knowledge? "Change is inevitable, it's inevitable because of our ability to analyze more data." Where it is currently necessary to read information to absorb knowledge, in the near future this can be automated. Given the roughly 50,000 publications released in academia each year, that's good news. However, data science will bring a fundamentally different scientific approach: "To this day, we are working on the principle of creating a hypothesis in order to then validate it," explains Högsdal. "AI with its powerful pattern recognition will reverse that. AI will discover hidden data correlations for us, which we then have to explain."

The village fountain of knowledge

Many companies are trying to figure out how to keep existing knowledge in the company - especially during generational changes. Because knowledge is fleeting; when it is no longer needed, it disappears from human cerebral archives to make room for new information. Until a few years ago, the solution was knowledge management: Large databases should document all knowledge and make it available whenever needed. Recently, this approach has not seen much attention: "The idea is no longer relevant", says Högsdal. Knowledge, it seems, cannot be locked into prescribed silos, but is fluid. "The exchange of knowledge takes place informally; one speaks of an unintended interaction." Architecture can promote this diffusion between generations, hierarchies and disciplines. The village fountain in operation as a solution? Why not? The central fax machine or the photocopier in the corridor once had this function, where knowledge exchange was often more constructive than in official meetings. "Knowledge transfer takes place in people's heads."

Where does knowledge originate from?

Germany is generally considered a research country. And where there is research, there is knowledge. At least, one would think so. But Högsdal isn't so sure: Research activities in German companies have declined: "Most SMEs have too much to do with day-to-day business, so there is no time or capacity for R&D. Unless, of course, the customer pays for it." Established companies invest in process optimizations rather than initiating new research and development projects. However, we know very well that

Knowledge is becoming obsolete faster than ever – that's why the HdM provides methods and tools for a constant renewal of knowledge.







TV studio, gravure printing machines, software laboratories, photo studios: The HdM offers its approximately 5,000 students everything they need to acquire knowledge.



Photos by Max Nehlich

this is dangerous: the German automotive industry has all the knowledge but has ignored the urgency for alternative engine technology development too long. And Boeing will struggle for a long time with the tragically unsuccessful attempt to optimize its 737 model.

"Every industry, every sector, sees more capital invested in startups today than in good old research and development," notes Högsdal almost casually. "The attention has clearly shifted towards startups." Is this why companies are so eager to fund internal startups at the moment? Högsdal sees this as a way to gain new knowledge. "But you have to tackle this with real conviction, really take the startup out of the mother ship and provide it with real risk capital. You can't apply traditional financial planning, it doesn't work." There is also the question of how knowledge acquired there, can be transferred back to the parent company. "This always fails when the goals and intentions of the new venture aren't clearly defined. Is it a playground for new ideas? Is the intention to test new methods and processes? Or is the startup used to initiate a change process?"

Innovation based on knowledge

"Knowledge-based ideas are rarely technology-driven; the focus is mostly on the user." Anyone who thinks from the users' perspective comes up with completely different ideas - and startups are particularly good at this. The Internet of Things, for example, can be used to functionally upgrade devices or, to enable new business models. Högsdal says: who knows what a cleaning machine does all day long, who knows what has been cleaned? Accurate data could be used to develop a different accounting model. "It's about identifying an issue and offering a better solution. You don't need detailed knowledge." The idea for a mobile tooth cleaning service is a good example. "This is not rocket science, but it enormously improves the experience for the patients. And that has become a very important success factor these days." Expert knowledge is, of course, still relevant but not instantly. In fact: "You don't have to know everything yourself."

Prof. Dr. Nils Högsdal is in charge of Corporate Finance and Entrepreneurship at the Stuttgart Media University since 2012. Since September 2016, he has also acted as Vice-Rector for Innovation with a focus on research and transfer, foundation, further education and internationalization. Högsdal was active as an entrepreneur and manager for twelve years, including a role as managing director at Topsim. Högsdal continues to rely on learning methods such as business simulation games and propagates the lean startup approach. He is a mentor of several programs such as Exist or Young Innovators, he designed the school competition "Jugend gründet" and is a juror at the state award for young companies in Baden-Württemberg. www.hdm-stuttgart.de

GMG maintains close relationships with media universities. It is not uncommon for graduates to start their careers at GMG – some of them have been successfully working for the company for many years.



TYPE DIRECTORS CLUB OF NEW YORK

The World's Best Typography

Among the many stars in the sky of creative competitions, one shines brighter than others: the Type Directors Club of New York. The entry conditions are clear and fair, the participants come from all over the world and there's nothing but type & typography. That's what makes judging the winning works – awarded for typographic excellence – so stimulating.

Hermann Schmidt publishing house









PETER LINDBERGH, FELIX KRÄMER, WIM WENDERS Peter Lindbergh: Untold Stories

This volume documents the first exhibition curated by Peter Lindbergh himself shortly before his untimely death. With more than 150 photographs from the early 1980s to the present, it offers new and unexpected insights into the work of the legendary photographer. The selection is complemented by detailed texts on the exhibition's origins and a tribute by Wim Wenders, a close friend of Lindbergh's. **TASCHEN**



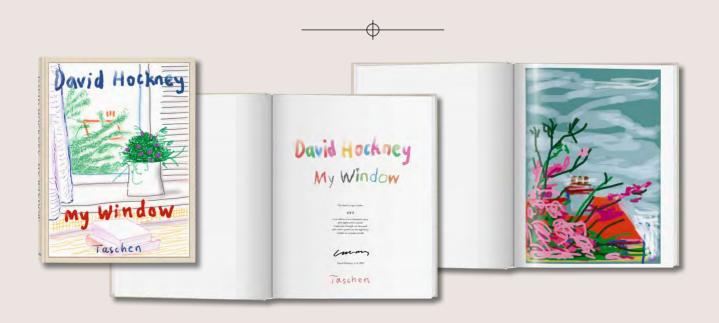




SLAWIK & BERGMANN, BUCHMEIER, TINNEY

Container Atlas, a Practical Guide to Container Architecture

Container architecture has become an essential part of our twenty-first century surroundings, with it being used to create modular structures for pavilions, brand showrooms, retail premises, and even residential homes. Ten years after the first publication of Container Atlas, this eagerly anticipated follow-up charts how this movement has evolved into an essential part of today's architectural vocabulary. Container Atlas serves as a practical and inspirational reference not only for architects and engineers, but also for all creatives eager to learn about the rich and diverse language of container architecture and modular building. **Gestalten**



DAVID HOCKNEY, HANS WERNER HOLZWARTH

David Hockney: My Window

When David Hockney discovered the iPhone as an artistic medium, he opened up entirely new possibilities for painting. He made his first digital drawings in spring 2009. The iPhone was easy to use and he didn't even have to get out of bed to start his working day, drawing morning impressions in broad lines and dazzling colors directly on his screen. In 2010, Hockney first used an iPad which, with its larger screen, expanded his artistic repertoire and enabled an even more complex interplay of color, light, and line.

Each image captures a fleeting moment, from the colorful sunrise and lilac morning sky to nighttime impressions and the arrival of spring. Fascinating details reveal drops on window panes, distant lights in the night, reflections on glasses, bottles, and vases an abundance of subtly varied vegetation. We experience the passage of time through the eyes of David Hockney. **TASCHEN**







A mixture of industrial charm and cozy boudoir: the open plan interior design by Ahoy in Berlin (previous page) and the Jaffa meeting space with door.



Coworking spaces are seen as pioneers of a new office culture – here the Urban Spaces in Stuttgart.

ehind the sliding door, there's silence. If you need some thinking space or if you need to make a confidential phone call, just enter the "Focus Box" and you enjoy total privacy. Retreats like this box are important, even if Urban Spaces in Stuttgart are designed open plan, open plan to encourage communication and community. The coworking space, which opened in a former industrial building in 2019, is one of well over 500 in Germany. The sector is booming especially in the big cities. Berlin alone has over 150 coworking spaces. They offer flexible offices for freelancers and small businesses who not only share the offices and desks, but also the services. And these can be extremely diverse.

The Berlin Ahoy, for instance, views itself as more than the sum of its square footage - they present also a platform for networking. "We are more than just a space," says Nevena Bacheva of Ahoy. "For example, we also work with the employment agency here to offer our users a recruitment service." The Ahoy is not only one of the oldest coworking spaces in Berlin, but with around 5,000 square meters it is also one of the largest of its kind. Freelancers and employees of companies who need a base in Berlin work in the Ahoy. They either work side by side in open, shared spaces or in separate offices. Many of the residents have their company headquarters registered in Wattstrasse. "That's officially recognised", says Bacheva. To use the Ahoy, you have to be a member, but the costs are manageable and far below those of renting your own office somewhere in the city. Meeting rooms are included and then there are, of course, perks like coffee at a flat rate. Fixed desks and lockers can be hired, as well as lockable offices. Group yoga practice is led once a week, and massages are also offered on site. Somehow it is like a company that treats its employees exceptionally well. And the interior design is as varied as the room program, it's certainly unconventional and inspiring.

Nine-to-five – a thing of the past

"For many projects, a certain degree of theatrics is required," says Studio Komo in Stuttgart, who designed the interior of the urban space, which is also based in Stuttgart. "The interior and architectural look and feel plays a crucial role when it comes to attracting coworkers." There is certainly a level of competition among the offerings, especially in the big cities. Although members remain remarkably faithful to 'their' coworking space. Urban Spaces impresses with its hip interior – an atrium serves as a lounge and event area, relaxed seating invites informal meetings and tables encourage communicative work. A shop offers all you need to be creative and productive. No trace can be found of the cliché image like stacked pallets for tables etc.: "These were rather the beginnings; today, coworking no longer means that you have to restrict yourself or improvise."

Coworking as an all-round service

The Sunshine Suites, founded in Vermont in 2001, are the first coworking spaces ever. Initially intended for the then emerging digital nomads, the space provided well-equipped infrastructures that could be used at short notice, complete with fast internet access built into the tables and the coffee machine encouraging exchange with other users. Since then, the relatively rudimentary offerings have evolved into comprehensive packages — as we see in Ahoy. Coworking spaces are now a mature business — professionally branded, sophisticated and expanding. For an operator to maintain several buildings is still an exception, but a concentration process is affecting this sector too. More members and more space increase efficiencies and present a stronger balance sheet. It's simple economics.



The Stuttgart design team Komo gave the Urban Spaces their very own interior consisting of open-planned areas and private spaces.



Retreat into silence: The Focus Box in the Urban Spaces ensures the necessary discretion in the community.

Surveys have shown that almost half of the users previously worked from home, but at some point experienced loneliness. Humans are social beings, especially at work: 59 percent of users appreciate the social atmosphere and 55 percent rate the community in the coworking spaces. Once a member, always a member – seems to be the general consensus. "The majority of our members are permanent residents here." says Ralf Schuck from Urban Spaces. Established companies from the neighborhood also come to Schuck for meetings or workshops. Again, the unconventional ambience is likely to play an important role. Most companies still have relatively conservative, functional office designs. Breaking out from the daily routine and meeting in a different space can free up ideas. Coworking spaces can, to some extent, be described as laboratories for the future work environment. "Basically, it's about freedom. For example, we no longer assign fixed functions to individual areas on the floor plan," explains Rene Rauls from Studio Komo.

Laboratories for new concepts

And so we begin to see office concepts which are increasingly based on the model of the coworking space: open areas for dynamic project teams, comfortable relaxed seating for informal conversations, standing tables, glass offices or meeting rooms – even coffee bars or chic libraries appear in modern workspaces. The encouragement of creativity, ideas, and inspiration has become the goal, designed for human interaction. The giant steelcase demonstrates how this can work in concrete form at the Munich headquarters: It is both a showroom and a stylish place to work.

New Work is an attitude

The connecting link is called New Work. The 'buzzword', however, does not only stand for chic workspace design found in furniture brochures, but for a new way of working – a new concept. In reality, however, it's not that new – the father of New Work is Friethjof Bergmann, who founded the Center for New Work in Flint (Michigan) in 1984. Born in Germany, and with a colorful CV, he holds a doctorate in philosophy and began to look for alternatives to socialism and capitalism in the late 1970s. Based

on the thesis that wage labor has survived in its traditional form, he postulated the principle of New Work, which focuses on self-determined work, participation in communities and the freedom of action of the individual. Bergmann saw this as a primary social model, a revolutionary approach for the hierarchical conditions cemented at the time. When the transformation of industrialized nations from manufacturing to knowledge producers became apparent at the beginning of the 21st century, New Work took off. Also, because now a new generation of highly trained knowledge workers has flocked from universities to pursue different lifestyles than those maintained by their parents. Work-life balance, questioning the purpose or meaning of what we do, transparency, measuring the value of what we do as individuals, entrepreneurship, contribution to companies and society have replaced the previous focus on what's in the pay package. Ultimately, New Work aims to no longer see life and work as opposites, but to connect them in a meaningful way. In this way, the concept according to Bergmann – challenges companies to question their self-image. New Work manifests itself in the attitude, culture and management of a company – the transformation of the working world is the next logical step.

GMG uses a coworking space as a creative innovation lab. Here, interdisciplinary teams can work on new solutions without being distracted.

MORE: DÜSSELDORF

How Do You 'Dü'?

Everyone knows: time flies – and that's why we feel it's appropriate to prepare for the postponed drupa. TrueColors took a look around Düsseldorf and discovered more highlights outside the exhibition venue than fit on these pages. Here are our favorites.



Drink: Bar Ellington

Bartender Robert Potthoff did well to open his establishment near the main train station. Here, between betting shops and erotica stores, the ambience is urban and cosmopolitan. The contrast between the tasteful, stylish interior of the Ellington and the turbulent street life adds to the charm. Potthoff's cocktails are considered to be the best in the city, especially the Moscow Mule, which is served in a copper cup. The tasteful design of the Ellington bar isn't a lucky accident – Potthoff is a qualified interior designer, and one look inside reveals how well his expert knowledge extends beyond spirits and mixology.

Scheurenstraße 5 / 40215 Düsseldorf



Shopping: Live Lab Studios

Düsseldorf is a shopping paradise. Beyond the famous Kö, short for 'Königsallee', many interesting shops are hidden in the backstreets of the Rhine metropolis, awaiting your discovery. Live Lab Studios, which opened in spring this year and is one of the most exciting new additions to the local shopping scene. With this concept store, fashion designer Stephanie Hahn has fulfilled a long-held dream. Between the whitewashed brick walls, she not only gathers the designs of her own collection 22/4, but also selected interior design objects and high-quality cosmetics. Particularly spectacular: the furniture by Dutch designer Dirk Vander Kooij, all made from recycled plastic – on a 3D printer or a specially developed plastic press. Fürstenwall 66 / 40219 Düsseldorf



Eat: Lido by Malkasten

The artists' association Malkasten is an institution that has enriched Düsseldorf's cultural life for more than 170 years. In addition to enjoying art, culinary delights are also very popular in the association's headquarters in Jacobistrasse. The Lido restaurant, located on the ground floor of the building, serves French-inspired cuisine formatted to encourage sharing. Similar to tapas, many smaller plates are ordered so everyone gets a taste of each. The interior is easy on the eye, too: the artist Rosemarie Trockel has been partly responsible for the colorful interior. *Jacobistraße 6 / 40211 Düsseldorf*





Eat: Yoshi by Nagaya

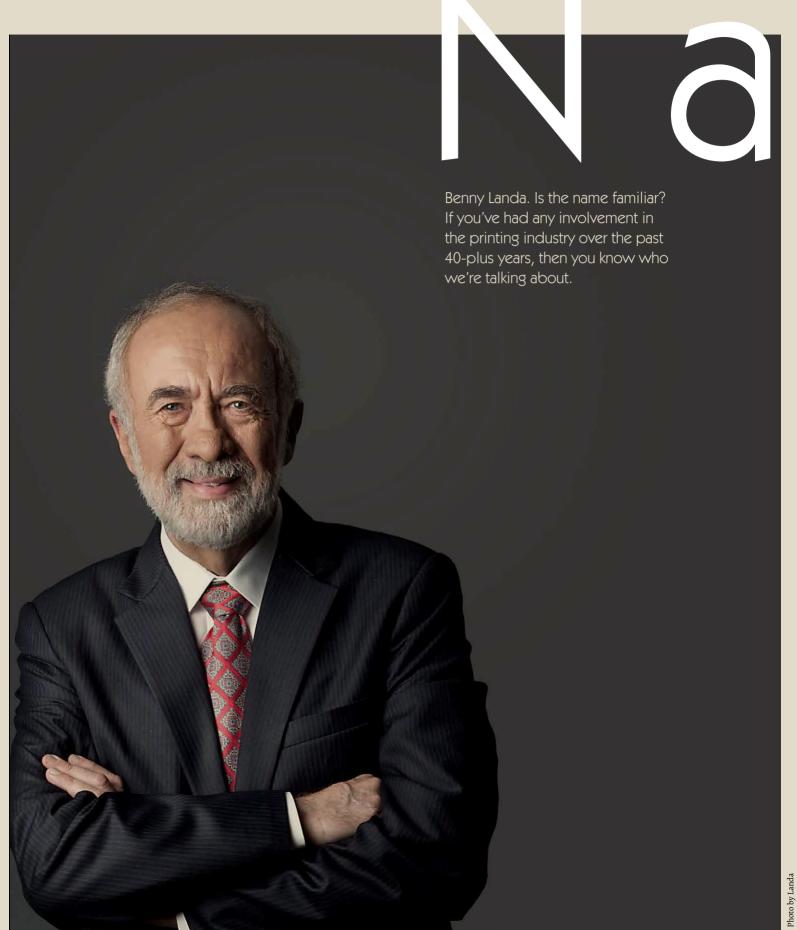
Düsseldorf is known for its rich Japanese dining scene - Little Tokyo around Immermannstrasse has the right place for every taste and budget. If you want to experience the best, go straight to Yoshi. Named after the headchef himself, this elegant branch of the Michelin star restaurant Nagaya opened its doors a good one and a half years ago. Watching Yoshizumi Nagaya from the counter, handling ingredients and knives borders on a metaphysical experience. Not to mention the taste of the food he creates. Soups, sashimi and sushi served here are a treat for all the senses. In addition to the traditional dishes of the highest quality. Yoshi also has some surprises in store, such as the fish course: a confectionery Saint-Pierre with parsley powder and dough-coated daikon radish. You'll have to look very hard to find something similar in Germany. Kreuzstraße 17/40211 Düsseldorf

Art: Langen Foundation

Düsseldorf has many top-class museums – but the Langen Foundation just outside the city should definitely be on the list for lovers of art and architecture. On a former NATO base on the Lower Rhine – the so-called 'rocket station', a 25-minute drive from Düsseldorf city center – you can expect a holistic architectural experience created by the Japanese star architect Tadao Andō. A masterpiece made of glass, concrete and steel. In the two architecturally different, interconnected buildings, the inside merges with the outside; it's where art meets nature. Since its opening in September 2004, the unusual ensemble has been home to first-class exhibitions and events. By the way, the museum island of Hombroich is also in walking distance and well-worth a visit.

Raketenstation Hombroich 1 / 41472 Neuss

MORE: INNOVATION



h () t () Achieving big

Achieving big from Nano

The far-reaching vision of a prolific innovator

aybe you know Benny Landa's name because he was the founder and leading figure behind Indigo, which unveiled the world's first digital printing press, back in 1993. Or, maybe you recognize the name because of his eponymous company, Landa Digital Printing, which invented the new digital printing field of Nanography, and in 2012 introduced the world's first Nanographic Printing Presses.

Even if you haven't heard of him, you've certainly seen, touched or worked with something that he had a hand in creating. That's because Indigo, the company that Benny established in 1977, went on to become the market leader in the new industry of digital printing and Indigo presses have printed hundreds of billions of print items all over the world.

Thirty years ago, Benny Landa revolutionized the world of printing with Indigo digital printing and ElectroInk. And now he's doing it again, with Landa Nanography. And, Nanographic Printing, while a lot younger and still in the early adoption stages, is already being used by numerous print providers around the world to print a great variety of printed products.

Between those two breakthroughs, there's probably hardly a person on the planet who hasn't at one time or another touched a page or label or package that was printed with the digital print technology that Benny and his team invented.

Indigo (HP Indigo) and Landa Digital Printing continue to be big news, but they're just the headlines at the top of an exceptionally colorful story of innovation, creativity, tenacity and leadership. As the holder of more than 1,000 patents worldwide, Benny Landa has fueled innovations across numerous fields. He's founded and nurtured multiple companies and mentored countless people. That's the godfather part of this story.

The early days

Benny Landa was born in Poland in 1946. Two years later, he and his parents, Holocaust survivors, emigrated to Edmonton, Canada. His father later bought a small tobacco shop and added a photo studio and darkroom to help make ends meet. Mr. Landa Sr. built a unique camera from bicycle parts and pulleys that captured the image directly onto photographic paper, eliminating the need for film. It's easy to see that as a forerunner to the central element of digital printing which his son Benny would introduce more than three decades later. The young Benny assisted his father in the darkroom and developed his first invention: a mixer for photographic chemicals.

Leaving Canada to study overseas, Benny first studied physics and engineering, then psychology and literature, and ended up with an MA in cinema from the London Film School.

"I was incredibly curious and impatient, so I didn't stick with any studies, except for cinema," he says. "I always wanted to explore something else, discover things in new areas. I've been lucky that I've managed to do what I've done!"

Once an entrepreneur...

Benny founded his first company in 1971, when he was just 25. He and a friend established Imtec, which would later become Europe's largest micrographics company. Benny invented the company's core imaging technology and, while researching liquid toners, worked on a method of

Nanotechnology is the science of ultra-small particles that are measured in nanometers.

high-speed image development that would later lead to his groundbreaking invention of ElectroInk.

In 1974, Benny followed his long-time dream and moved to Israel. Three years later, he founded Indigo, and commercialized the ElectroInk concept, first as a high-speed photocopying process which was almost ten times faster than the toner-based copiers of the time. He also developed the high-speed sheet feeders and document scanners that became the industry standard and were licensed to virtually every copier manufacturer in the world. With that success, Benny thought that ElectroInk could be used for offset printing. So, in 1983, the Indigo team started work on developing the first digital printing press, an endeavor that took 10 years.

Even before that, Benny had a clear vision of the potential. In an interview filmed in 1977, he said: "When Gutenberg first invented the printing press, he surely didn't imagine the technologies of today."

In 1993, the year he unveiled the first digital printing press, Benny said: "This powerful technology will impact all printing markets, from packaging to personalization, and from book publishing to short-run color printing." That same year he made his best known and most prophetic quote: "Everything that can become digital will become digital – and printing is no exception."

Bearing out Benny's prediction, many other companies began developing digital presses and related solutions, and the digital printing industry grew into a multi-billion-dollar industry in less than 20 years. To this day, Indigo remains the market leader, its products still based on Benny Landa's original ElectroInk concept.

After Indigo was acquired by HP in 2002, Benny set off in a new direction.

A big vision with nano focus

Benny established the Landa Group and shifted his attention to nanotechnology research, initially for alternative

energy. While working with nanoparticles, Benny and his team of PhDs observed that many materials exhibit unusual properties at the nano-level. And, given his deep background in print, it wasn't long before Benny thought about what that might mean for pigments. He notes: "Nano-materials enable the creation of extra-hard coatings, super-strong materials, and of course, beautifully rich colors."

Printing goes Nano

Benny and his team discovered "nano-pigments", which spawned an entirely new category of digital printing: Nanography.

The Landa Nanographic Printing technology is based on NanoInk, which has pigment particles of just a few tens of nanometers in diameter. The process enables large format high-speed digital printing on a practically unlimited range of paper stocks or plastic. And, because nano-pigments are extremely powerful absorbers of light, they enable amazing image qualities, and with a super-wide color gamut that covers up to 96% of all Pantone colors.

This is a revolution for digital printing, enabling many new types of applications and products to be printed digitally, and making it possible for printers to cost-effectively produce the kind of run lengths that the market demands.

"In what I like to call the golden age of printing, say 25 to 30 years ago, all runs were long. But then print buyers began relentlessly demanding shorter and shorter runs. Until the option of digital printing, it was impractical to order small quantities. At shorter run lengths, it becomes very difficult for printing companies to be profitable with conventional printing. That's the reason that digital printing was effective, and it's the reason it took off."

As Benny sees it, there's a different sweet spot for today's digital printing, conventional (AKA analog) and Nanographic Printing. For very short runs, today's digital printing can be cost effective, and at the other end of the scale, for very long runs conventional printing is cost-effective. Nanographic Printing, on the other hand, enables the profitable production of digitally printed jobs from a run length of one – a single sheet - through runs of up to 10,000 sheets.

After unveiling the first Nanographic Printing Press at drupa in 2012, Landa continued to develop the technology and by 2016 it had unveiled A single sheet of copier paper is 100,000 nanometers thick.

A human hair is 80,000 nanometers in diameter.

several high-speed sheet and web printing presses. Today, as the printing industry gears up to yet another drupa, there are Landa Nanographic Printing presses installed around the world, in full production, printing mainstream jobs.

"Over the past eight years since its unveiling at drupa 2012, Nanography has evolved into a mature mainstream technology, now producing high volume production jobs of breathtaking quality for customers across the globe. Printing will never be the same again."

Landa's big world of nano and more

Having created two revolutions in printing, what is Benny Landa up to in 2020 and beyond?

Benny's broad vision for technology stretches far beyond printing, and his excitement about the potential to effect change reaches far beyond technology.

Landa Labs was founded based on the idea that it is possible to develop a systematic approach to how deep technology can be transformed into disruptive solutions. As a materials-science-focused R&D center, Landa Labs develops and commercializes technologies that are disrupting large markets such as solar energy, pharmaceuticals, hair color, cosmetics, lab-grown diamonds, automotive coatings and more. Technologies are spun out of Landa Labs as either Landa-owned-and-operated businesses or, if it is determined that there is a better potential owner, sold to third parties.

Landa Ventures, the group's investment arm, chaired (of course) by Benny Landa, has a growing investment portfolio of promising young technology companies in fields that target large markets with disruptive technologies in which the Landa Group adds value as an investor and has potential to build industry in Israel. Landa Ventures companies are in fields ranging from energy and imaging to personal care and satellite communications.

In addition to being an inventor and visionary, Benny is also a philanthropist. The Landa Fund for Equal Opportunity Through Education, which he founded in 2002 with his wife Patsy, enables young new immigrants to Israel and Israeli Arabs to acquire university degrees. The Fund has invested over \$50 million in Israel's universities, enabling thousands of Israeli youth "of privileged minds and underprivi-

leged means" to earn university degrees, and it also supports non-profit organizations working to advance shared citizenship and tolerance between Israel's Jewish and Arab citizens

About this, Benny says: "Others call it philanthropy, but I see it as social investment. It's not about a monetary return but rather a much bigger payback: equal and shared citizenship between Israel's Jewish and Arab communities."

Indeed, that kind of mindset is at the heart of Benny Landa, the visionary innovator and consummate entrepreneur: "I want to transform and disrupt, but not for disruption's sake, and certainly not just to make money. It's always been my ambition to have a broad positive impact. Even now, I want to continue to generate jobs, to manufacture products, to change society for the better. My first company, Indigo, accounts for 0.5% of Israel's GDP. My goal is that, in my lifetime, Landa Group companies will add an additional 1.5% to Israel's GDP."

GMG supports digital printers who want to achieve predictable high-quality results. Print data preparation with solutions from GMG also ensures efficient production in conventional printing and enables consistent and accurate colors in a cross-process production environment.



PORTRAIT

The Prioritization Artist

About two years ago, Rainer Schmitt joined GMG tasked with developing and driving innovation. This turned out so well that he recently became Head of Strategy & Global Business Development. For Rainer, his job is not just about leadership. He wants to create an environment full of curiosity and hunger for the new – so everyone can reach their potential.

How do you actually become Head of Strategy & Global Business Development? "By being asked," says Rainer Schmitt and laughs. It's nice when opportunities present themselves and doors open from within a company. The first door opened for him at GMG about two years ago when the Managing Director asked Schmitt to work for him. His mission: to further develop the business model at GMG. For Rainer Schmitt this was the perfect moment to make his next professional move.

Following his economics degree at the University of Hohenheim, he started his career at TOPSIM in Tübingen, a subsidiary of the Indian Tata Group. "We developed business games for companies and universities. The focus was on playful learning in a professional context", he explains. Rainer Schmitt was responsible for sales and marketing. And for the first time he dealt with the topic of innovation. "Together with my colleagues, I changed the business model for the business games in question, from purchase software to a subscription model." There was a startup atmosphere in the team of 30 people. That appealed to him.

At GMG, he was also allowed to lead a kind of startup. "For the first two years I was tasked with searching for and evaluating ideas developed within the company. My role was to check whether these ideas could be successfully implemented," he summarizes. Schmitt doesn't do it alone. For this purpose, he formed a small, interdisciplinary team. Together with colleagues from software development, marketing and sales, as well as a printing and process

engineering, the chosen idea was put through its paces. "We have ten weeks for the review and then we present to management," he said. GMG ColorCard was the result and has since been successfully launched. In the long run, Schmitt expects two to three projects a year. "You can make almost any idea successful. But at what cost?" That's why prioritizing is a crucial skill for this job. "This is the most difficult part," he says.

A privileged task, for sure, but it comes with a good amount of pressure. After all, it is a challenge to propose the right ideas and to work methodically and thoroughly. "Especially when you want to create something new, communication within the team, but also with the customers is important. In the end, everyone has to have the same vision." And so, Schmitt is ultimately a prioritization artist. His tasks have a lot to do with leadership and coaching.

Specifically, Schmitt wants to create an environment where curiosity and hunger for the new prevail instead of pressure. That applies to him personally as well as to his colleagues, he says. He clearly wants to increase GMG's innovation capabilities, remain relevant and excel. "At the same time, employees should be able to fulfill their potential. One of my goals is to learn together with my colleagues how to advance and achieve all of this in an established company."

How about the famous work-life balance? "I try not to separate life and work," he says. After all, he also lives at work and tries to cultivate friendships here too. But he admits: "I have to make sure that I come home in the evening and don't jump on a conference call at 10pm," says the father of two with a smile. Surprisingly, Rainer Schmitt says that his dream job is "a wine or coffee bar — or something in-between". If, for example, one of his sons were to pursue this path, he would be all for it. He would love to spend his free evenings in his son's bistro. This would undoubtedly be a perfect place to dream up future ideas.



The Future of the Packaging Industry: Predictable

Founded in 1913, the Edelmann Group is a family business with a long tradition. The packaging experts have done well in the past, as was proven once again by their recent German Design Award. But a conversation with TrueColors reveals: the business is very much looking forward rather than dwelling on the past. "It's about challenges – but above all it's about opportunities", says Alexander Gaugen Maier, Quality Manager at Edelmann.



Predictable results as the key to greater efficiency: Michael Weihing, GMG, and Alexander Gaugenmaier from Edelmann do not like surprises when it comes to printing.

TrueColors: Mr. Gaugenmaier, you are responsible for quality at the Edelmann Group in Heidenheim. That fits perfectly with GMG's claim, but what exactly are your tasks?

Alexander Gaugenmaier: To answer your question, I need to start at the beginning. In the past 15 years at Edelmann I have got to know various areas. Among other things, I was able to spend an exciting year at our French factory. I have been a Quality Manager since September 2019. In this role, I deal with certification issues and final quality inspection.

And the color?

Alexander Gaugenmaier: Color is always an interesting topic for quality management. Color assessment or communication with the customer are part of my daily routine.

Keyword communication – color communication is the central application for GMG ColorCard ...

Michael Weihing: The application scenario has several levels: ink kitchen, color communication with the customer before print production, quality check on the press and at the customer's site.

All process participants and stakeholders benefit? What did all these people do before GMG ColorCard?

Michael Weihing: To be honest, the same thing. Only conventional production of ink drawdowns was very complex and in truth extremely expensive.

Mr. Gaugenmaier, can you describe the creation of a conventional color card?

Alexander Gaugenmaier: Mr. Weihing has already indicated

this. There is a lot of manual work involved. First you create a color recipe based on the customer's target color. The color is mixed in a small amount and printed on the original substrate. This color is then read with a measuring device.

And then the process of creating an actual ink drawdown starts?

Alexander Gaugenmaier: That's correct. In order to accurately communicate expected color results with our clients, we create a proof on the original substrate – using a small printing machine that we use specifically for this.

And the proof is the color card?

Alexander Gaugenmaier: Unfortunately, not quite. We choose three samples with different ink densities from a number of proof sheets. An employee takes a template and cuts out small swatches by hand, varnishes them and glues them side by side on a card, the color card. Finally, labels are added.

And what if the customer does not immediately agree with the color and the tolerances?

Alexander Gaugenmaier: Then we'll start all over again. This is, of course, very time consuming. Color approval can sometimes take much longer than everyone would like.

Michael Weihing: It's not easy for someone who isn't involved in this process to understand the complexity of it all. It's just ink applied onto paper or cardboard – and then a whole series of manual steps. Archiving the cards is a project in itself. GMG's digital ColorCard solution is, of course, clearly advanced.



Michael Weihing: "There is no way around multicolor."

Can you describe digital color card production with GMG ColorCard?

Alexander Gaugenmaier: The key from a user's perspective is its ease of use. As soon as the measured value of the target color is available, central parameters such as the printing process or substrate are entered into the software. By the way, the application has only one window, making it very simple and quick. A final mouse click and accurate color cards are printed in a matter of minutes. If we require more of these color cards, an employee of the ink kitchen just needs to press the print button. All data is archived.

Michael Weihing: The ease of use really convinces everyone right away. And the flexibility is unbeatable, too. If the customer requires a different cardboard or wants to produce outer packaging made of corrugated cardboard with its brand colors accurately reproduced, we can simply choose the new substrate in GMG ColorCard. The color result is predicted precisely and can be printed out as often as required.

Alexander Gaugenmaier: Speaking of precise predictions. Every spot color can be exactly reproduced – with unbeatable accuracy, in my opinion. By the way, if conventional color cards have been archived for years and are used again and again as a reference, color changes can never be completely ruled out. Digitally stored color cards don't age. They can be accurately reproduced at any time. This is also a huge advantage across locations.

We have now discussed the topic of predictability and digitization using the example of color cards. Let me move on to digital printing. It's also about predictability, isn't it? Alexander Gaugenmaier: Digital printing is certainly an xciting topic – especially in the packaging industry. GMG

currently supports us in creating profiles. What is it about? Jobs produced in offset print can be printed in exactly the same quality as in digital print with a fixed multicolor set. And I can tell you, we're doing it pretty well.

That means you are converting the offset data?

Alexander Gaugenmaier: Exactly, with GMG ColorServer, GMG OpenColor and the support of the GMG experts, we have already converted and produced some conventional customer projects into the digital color space. The colors are absolutely consistent. This creates completely new opportunities for us and for our customers.

In digital printing, the challenges posed by the new technology are obvious. What challenges do you see in offset printing?

Alexander Gaugenmaier: Achieving consistent results across machines is the qualitative aspect. The other criterion is efficiency. The issue is getting into color quickly.

Getting into color quickly?

Michael Weihing: Predictability is the key to greater efficiency in the pressroom. Preparing images, converting data and, of course, color proofing. Those who know exactly what the machine is producing in prepress have a clear advantage. The keyword here is: print approval.

With high-quality packaging for the perfume and cosmetics industry, do you have any relevant experience with demanding print approvals?

Alexander Gaugenmaier: Indeed, our customers have high expectations. Not everyone can live up to this claim. But we do, and we are proud of that.



GMG ColorCard replaces the manually produced ink drawdowns, "... an incredible progress".

How does that work in practice?

Alexander Gaugenmaier: A very good example is the topic of hair coloration. As the main supplier to one of the world's leading French cosmetics brands, we are very familiar with this.

Light blonde, red blonde, brown and black?

Alexander Gaugenmaier: Exactly, the whole range. Every single picture is adapted according to the customer specifications. The process is iterative: editing, proofing, comparing until the color is right.

And then - print approval?

Alexander Gaugenmaier: Our customers often come to us for prepress approval. Everyone is taking a very close look. And, with projects of this scale, it is extremely important that both color management and proofing are a match. We cannot afford any surprises on press. Machine downtime is very expensive and clients have no time to waste either. Trial and error is therefore not an option – It simply wouldn't meet our High Q Packaging quality standard.

Demanding terrain – digital print, multicolor, special colors. And all should be predictable, repeatable, with cross-process consistency ...

Alexander Gaugenmaier: Indeed. There are many challenges, but also many opportunities.

Michael Weihing: Here at Edelmann we see what is possible in packaging printing. High quality folding boxes for the cosmetics industry and consumer brands on one hand, and maximum flexibility for customers from the pharmaceutical industry on the other. As individual as the customer may be, the recipe for success is comparable: efficiency through

predictability. We are proud to be able to contribute our part with our expertise.

Predictability – one last time. What is the trend in folding boxes? What is your prediction?

Alexander Gaugenmaier: The folding box will not only have an important function as a packaging medium, but also as an information carrier. Product security and counterfeit security are also aspects that will become increasingly important. Also, special solutions for age-appropriate and child-friendly folding boxes. All require innovative and lifestyle-oriented packaging. And sustainability is of course an important trend. Today, a five percent recycling rate is no longer sufficient. We speak to customers who want a lot more. Grass cardboard containing 60 percent grass, hemp cardboard, FSC-certified substrates made with fibers from sustainable forestry. There is a lot of movement and large brands are no exception.

$\mbox{Mr.}$ Gaugenmaier, $\mbox{Mr.}$ Weihing, thank you for the interesting insights.

SELECTIVE FACTS



Colorful fear

(listverse.com)

It really exists: The irrational fear of colors. The medical term for this rare disease is chromophobia. People with this anxiety disorder sometimes react very differently to color – the extent of chromophobia can either be limited to individual shades or include all colors. The symptoms can also vary: Nausea, dizziness, panic, shortness of breath, increased heart rate, drowsiness, headaches, and trembling are among the signs of acute chromophobia. The condition can be treated by systematic desensitization or exposure therapy.

Green, green, green... are no mammals

A green insect? Green reptiles? Birds with green feathers? All of these can be found anywhere in the world. But what about green mammals? Nope. Some species of monkeys wear a green-brown or olive coat, such as the vervet — although most people primarily identify the color as brown. Sloths can also shimmer greenish, but this is only due to the algae growing in their fur. (geo.de.)

Black and white can cloud the memory

As psychologists have found in a study, our memory is more efficient when color is involved. People can remember scenes, pictures, or moving images better if they are not just black and white. The researchers suspect that color is more responsive to the senses and provides a better connection to the parts of the brain that deal with remembrance. The human brain is confronted with natural colors every day, so a deviation from the everyday - black and white movies, for example - is not capable of producing a corresponding effect. A special focus is placed in the naturalness of color: In the study, images of nature processed with false, unnatural colors scored just as poorly on memory performance as black and white images. According to the scientists, natural colors are therefore best suited to anchor an image in the viewer's remembrance. (dailymail.co.uk)



ALTERNATIVE QUESTIONS

Simon Illichmann

Printing Engineer Proofing



Photo by Jörg Jäger

What is your favorite color? Dark navy blue.

If you could start your dream journey tomorrow, where would it lead you? With the camper through Europe. Both in the north via Scandinavia to Iceland and in the south via France and Spain to Portugal.

What TV show are you currently watching? If I'm honest "Dragons" along-side my children. But I'm more of a YouTube guy.

Something most colleagues don't know about you: I haven't seen Star Wars or Lord of the Rings and still get by.

What color describes you best? And why? Green. For me it represents harmony, closeness to nature, freshness, and assertiveness.

Do you prefer working alone or in a team? In the morning I like to be alone, but generally I prefer working in a team. The team spirit in particular is what makes working at GMG so special to me.

How do you spend your time when you are not at GMG? With lots of outdoor sports (running, cycling, mountaineering, and kayaking) or music. And I really enjoy spending time with my family.

If you could have dinner with anyone, dead or alive, who would it be? Keith Richards, "but you can't always get what you want."

What was your first job? I spent many years washing dishes in restaurants and bars, the rest I'm still working on.

Your favorite season is: Switching between spring and late summer would be perfect.

Singing or dancing? Preferably both at the same time on a festival stage with a guitar around the neck.

In what area of your life are colors most important? In the choice of clothes. Very minimalist though, blue jeans and a white t-shirt. Other than that, colors play a rather minor role... have you seen my car? The color is called mocha, I think there's nothing more to say.

GMG UPDATE



GMG ColorProof 5.12

Binding and comprehensive quality control of digital color proofs on the basis of defined standards

- GMG ColorProof now contains the updated PSR standards for the M1 measuring condition, providing new proof standards for all commonly used printers. Also available: Full support for Epson SureColor P7500 / P9500, including new proof standards.
- Proof standards and spot color sets will be automatically updated when a new software patch is installed. The automated profile updates ensure reliable results without creating the need to wait for upcoming software releases.

GMG OpenColor 2.3.1

Patented spectral data profiler for color-accurate prediction of the interaction between colors and the substrate

Simple creation of precise proof and separation profiles

- GMG OpenColor now supports the new Epson printers SureColor P7500 / P9500.
- The uncomplicated organization of media libraries is now possible thanks to GMG OpenColor 2.3.
 Saving custom media was already possible in previous versions of the software but creating new substrates or editing existing media has never been easier. When media properties such as the paper tint
- are changed in the library, all projects referring to the specific media will be updated as well.
- Murray-Davies and SCTV curves can be toggled by the press of a button. When working in MD mode, one click can show or hide the SCTV curve as well – and vice versa.

GMG ColorServer 5.1.1

Our solution for automated color conversion ensures optimum color results and stable printing processes. Also available with ink-saving profiles

- With GMG ColorServer 5.1, the direct connection to GMG OpenColor is now supported. Separation profiles and spot color libraries for custom CMYK printing conditions can be created in GMG OpenColor. Profiles and projects from GMG OpenColor can simply be accessed from the resource management of GMG ColorServer. With color management resources shared over the network, switching computers and manually transferring profiles is no longer necessary.
- Processing PDF data containing transparency or overprinting effects can sometimes lead to incorrect visual results after color conversion if flattening is disabled. The new version of GMG ColorServer ensures that color management does not affect the visual appearance of overprinting areas, even if flattening is disabled.

GMG ColorCard 1.0

The ultimate solution for digitally created ink drawdowns based on CxF measurement values

- Easy usage in three steps: Importing CxF data, choosing a substrate, and defining the number of copies.
- Customized target substrates can be created.
- The solution is fit for different use cases, as layout options include

solids, tints, barcodes, and tolerances. If required, the design of each digital ink drawdown can also be customized.



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**Agreement in a consumer study with 30 women using Skin Food twice daily for 4 weeks.
***Agreement in a consumer study with 30 women using Skin Food Lip Butter twice a for 4 weeks.
Tested by an independent institute; other Skin Food products received at least 67% agreement."