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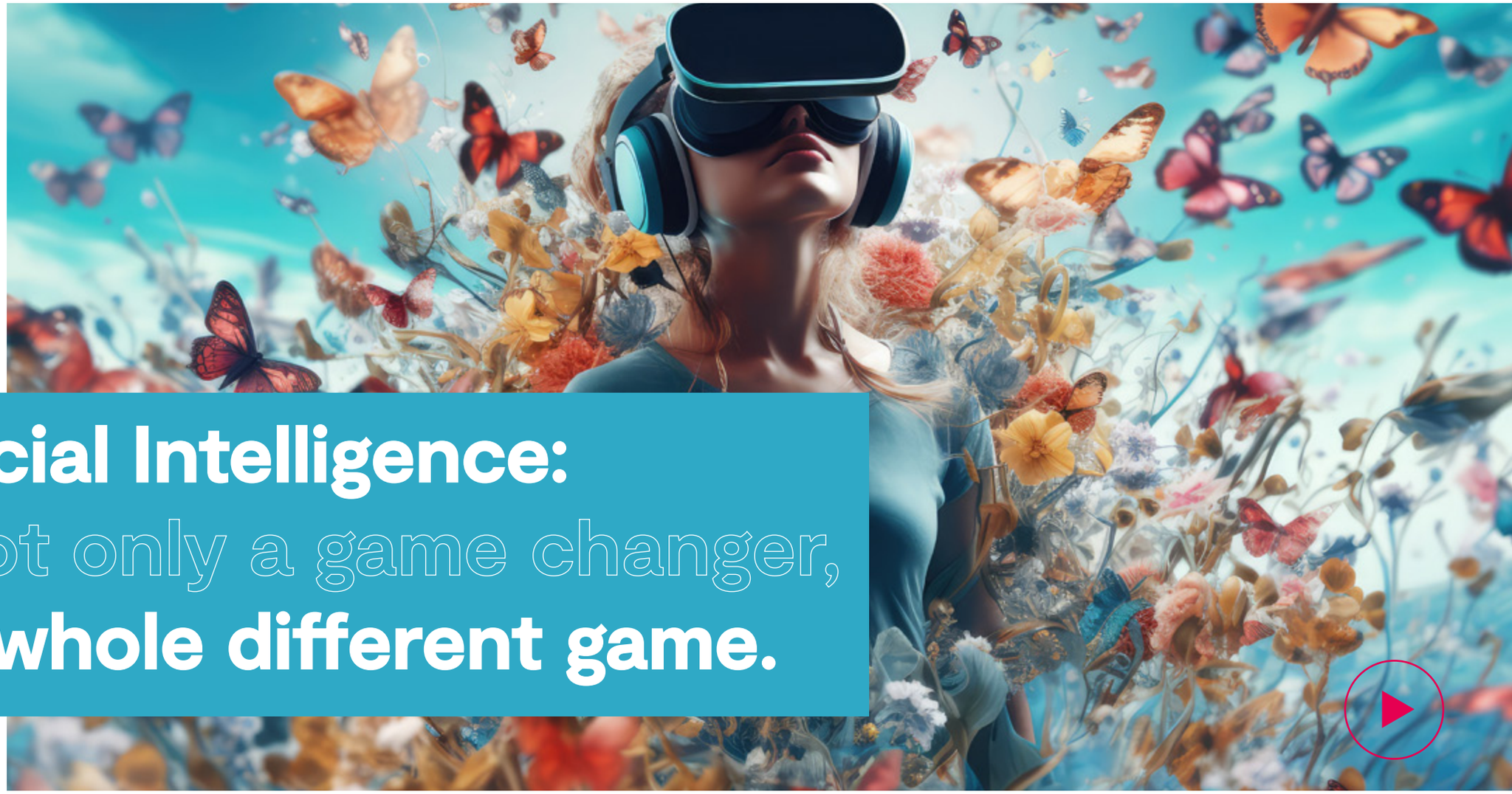
Point of View 2023



Artificial Intelligence:
It’s not only a game changer, it’s **a whole different game.**

What we are used to, is linear progress. We observe performance, gather experience, collect feedback, rework concepts, optimize what needs an update and release the next version. Whatever the industry is, examples are all around: latest technology built into the next version of any tool or device equals progress – that's when people today line up in front of Apple stores to get the next iPhone.

AI is the greatest disruptor of this linear development we are so familiar with. Self-learning technology with capabilities exceeding human brainpower? Expert knowledge that took years to accumulate being pulverised in seconds? What is safe to say is that with AI, you can forget about the web as you know it – and that is a new level of disruption which is neither exaggeration nor marketing.

Where do we come from?

There were a few iconic moments in the history of the internet that had sustainable impact on how we use technology and that disrupted markets and user behavior: Google entering the stage certainly was one of them, with an algorithm in the back more sacred than the original Coca-Cola recipe. Also, Steve Jobs and his presentation of the first iPhone, turning mobile phones into pocket computers and – ironically – upgrading fingertips to the superior mouse. But even those were "just" new services in how to use an internet that essentially comes to life in browsers.

One-way to the future

Artificial intelligence is here to stay. The democratization of AI marks the beginning of a whole new chapter. Up until lately, there were roughly two groups of people discussing the technology behind: Specialists whom nobody without expert knowledge really understood, and the rest of the world that saw the potential, but also had a gut feeling that launching AI was probably not the best idea to preserve mankind. Right into that mixed mood, the great hour of ChatGPT had come, and for the first time, people could experience how powerful and beneficial AI can be: Generative AI producing creative output instead of "just" reproducin data, flexible learning from different scenarios instead of responding to one-off tasks, even personalized communication and content that is astonishing close to human interaction.

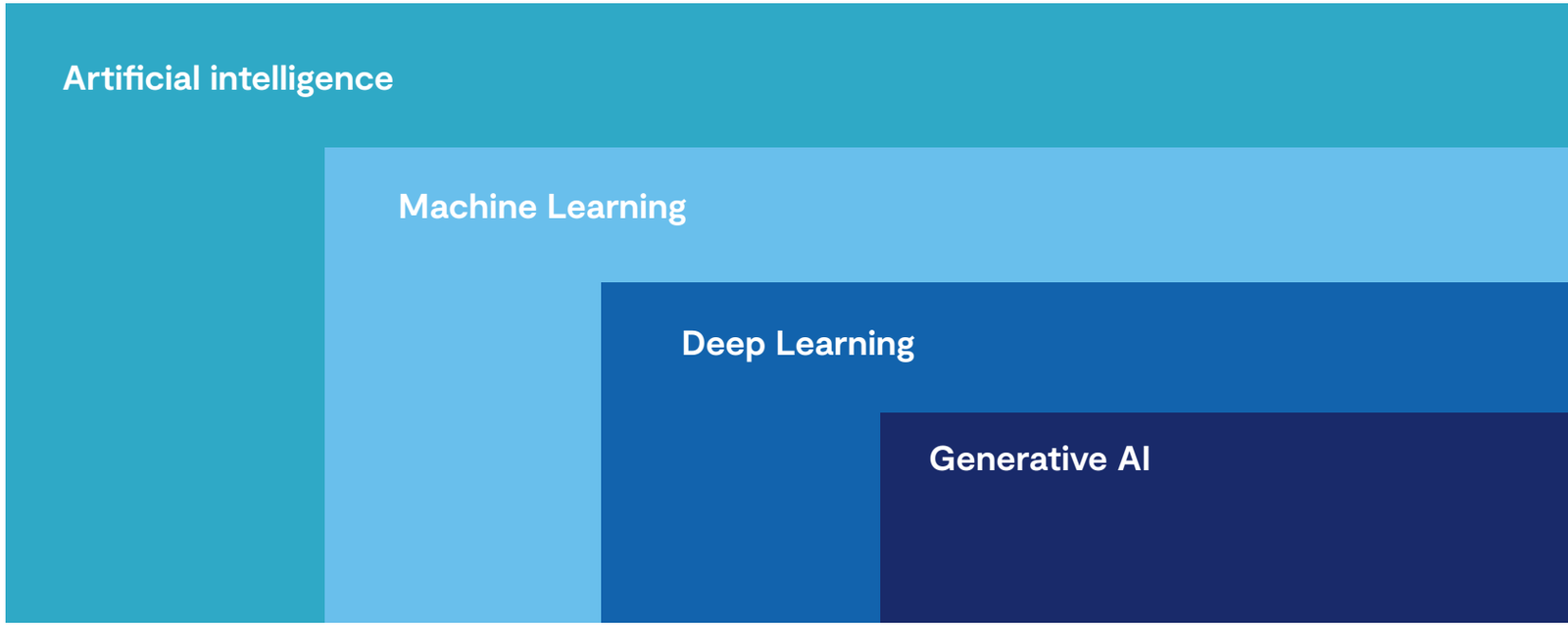
Responsible AI is our responsibilty

But: That doesn't make AI a plug-and-play automatism. Great opportunities always come with the need to understand every detail – and the awareness that there are risks that need to be addressed. In December 2023, the EU launched the AI Act and set an example of what responsible AI should look like. Even OpenAI CEO and ChatPGT mastermind Sam Altmann says, AI needs to be regulated.

We cannot predict the future – not even AI can do that. But we can go further than taking first steps with ChatGPT: Let's put the capabilities of AI in context with how our economy and society work. AI is here to enrich our lives, but we must take an educated look at its potential impact to decide on next steps that are responsible in all aspects – towards our businesses, our society, and the world we live in.

Getting the basics right

Evolution of Artificial Intelligence



Experts talking to experts, that's a jargon of its own. With AI now available for every household, it's time to build some tech acumen: What does AI really mean? What is possible now that wasn't before the dawn of AI?

Artificial Intelligence has come a long way from via Machine Learning and Deep Learning to reach Generative AI state. While Machine Learning was about fine-tuning performance based on understanding data and detecting patterns, Deep Learning went one step further to leveraging artificial neural networks to analyze large amounts of unstructured data and improve whatever is at stake accordingly. At the end, however, it still focussed on reacting to what was there already and then advise on next steps such as done in data-based decision-making. Both will remain important, not doubt about that, but they have also arrived and settled in business life.

Generative AI marks the latest – and most crucial – development stage. It's the first time that technology is capable of producing creative output and connecting systems to come up with elaborated outcome. Large Language Models enable for users to prompt tasks and receive output of such a quality that it's hard to differentiate whether its origins are human or not, creating great risks on the hand, but on the other creating unmatched opportunity to propel mankind forward.

From trends to impact

Artificial intelligence, real effect

Generative AI marks the decisive step beyond Machine and Deep Learning, when patterns and analytics are used to generate new content and insight that simply wasn't there before. It's no surprise that Generative AI is the breakthrough moment for AI compared to previous development stages when it comes to being accessible for everyone. Active production of any sort of information is a new game.

„Generative AI helps produce unique and creative output. That's new, and that's the one moment when AI capabilities finally reach mass suitability."

Steffen Kuhn, Managing Partner DETECON

Again, forget the internet as you know it. Remember that up until now, all action online is centered around us as active users. Searching for services, booking concert tickets, renting a car, streaming movies and so on, it's all us accessing browsers and operating masks.

With AI, I do not need to be the active user any more – I just delegate that. Bots may soon replace apps, and that might be the beginning of the end of the smartphone. Will we need new hardware? Will we be needing hardware at all?

Commands for my butler

Imagine I had a digital butler that's trained to do all the work for me, and I don't need a device any longer because all I need is something I can command via voice-control. This is when new, immersive experiences begin.

For example, if I was to travel regularly and want my AI butler to be my personal agency, I just clarify the criteria such as transportation, provider and hotel preferences, spend limits, credit card details and what else I may consider important, and then have my avatar do all the bookings for me plus advise on when to leave home because of expected travel and waiting times on rails and roads and in security check lanes. At the end, I'm still the person boarding that plane, but the way to get there has become much easier – and that logic of radical simplification will apply to every industry soon.

Communications 2.0

Interaction in general may soon differentiate from how we interact today. Natural language is about to gain in importance, same with gestures, and mixed realities round up our way from a range of technology trends to creating real impact on people's lives. AI revolutionizes the communication between humans and machines. Automation surely raises productivity and effectiveness in processes already when it comes to e.g. finding the unpaid bills in an SAP universe, but there is in fact a huge difference: what is being automized with AI is the process of thinking itself instead of conducting the outcomes of that thinking process – now, I can tell machines to think, and that's something that was obviously human-exclusive until recently.

After all, it's one thing that there are new ways how we can itneract with technology, it's another thing that this very technology doesn't only understand, but provide creative and high-quality output. Now, how can businesses make use of that and leverage AI technology for improved outcomes?

Democratization of AI

How AI impacts our business universe

By now, most of us will have made their lives a lot easier just by making the right commands in ChatGPT, conveying the potential and nurturing our imagination what else might be possible. ChatGPT will leave you hungry for systematic and sustainable change – and companies are best off to see development and opportunity early on.

The question is: Will the AI experience be scalable?

What can be said already is that once applied in large scale, AI surely impacts how businesses perform operational tasks and thus affect jobs as they are designed today. If you combine a company's experience and capabilities with AI, creating new services is just around the corner – making it easier for staff to perform in their roles, raising output quality, and offering solutions where budgets were low even before AI appeared on stage. Just imagine nursing homes would compensate the lack of professional staff with AI solutions that enable to take better care of the elderly? And what if medical staff would not only need to trust their skills, but had AI support to diagnose and treat? These are just examples from the medialca sector, and whatever the business, COOs and CFOs will appreciate the effects on quarterly results, but changing operations doesn't create a new customer experience yet.

> "There is no part in business life that will remain unaffected by Artificial Intelligence, that's why playing through opportunities and threats is no question of if I do it, but when."
>
> Marcus Berlin, Principle DETECON

Music in my ears – before I said a word

The real magic happens when we look beyond the edge of our plate: The core benefit of AI is to bring together analytics from hyperconnected sources and taking them one step further, i.e., create new experiences based on new services. This is because AI is capable of interpreting and connecting all data touchpoints to a degree that it can even anticipate my mood when I'm walking through my door at the end of a busy day. What's the music it's going to play? I won't even need to tell any device any longer, but AI is here to do that for me, also because it understands the tonality of my voice, not only what I actually said. Companies will stay relevant if they develop their services to being an integral part of my AI life companionship. Of course, they need enourmous amounts of data to do that – which leaves us with the sword of Damocles question: How can we assure that data and AI capabilities are only being used for beneficial purposes, not only for myself but for mankind as a whole?

Data driven decision making

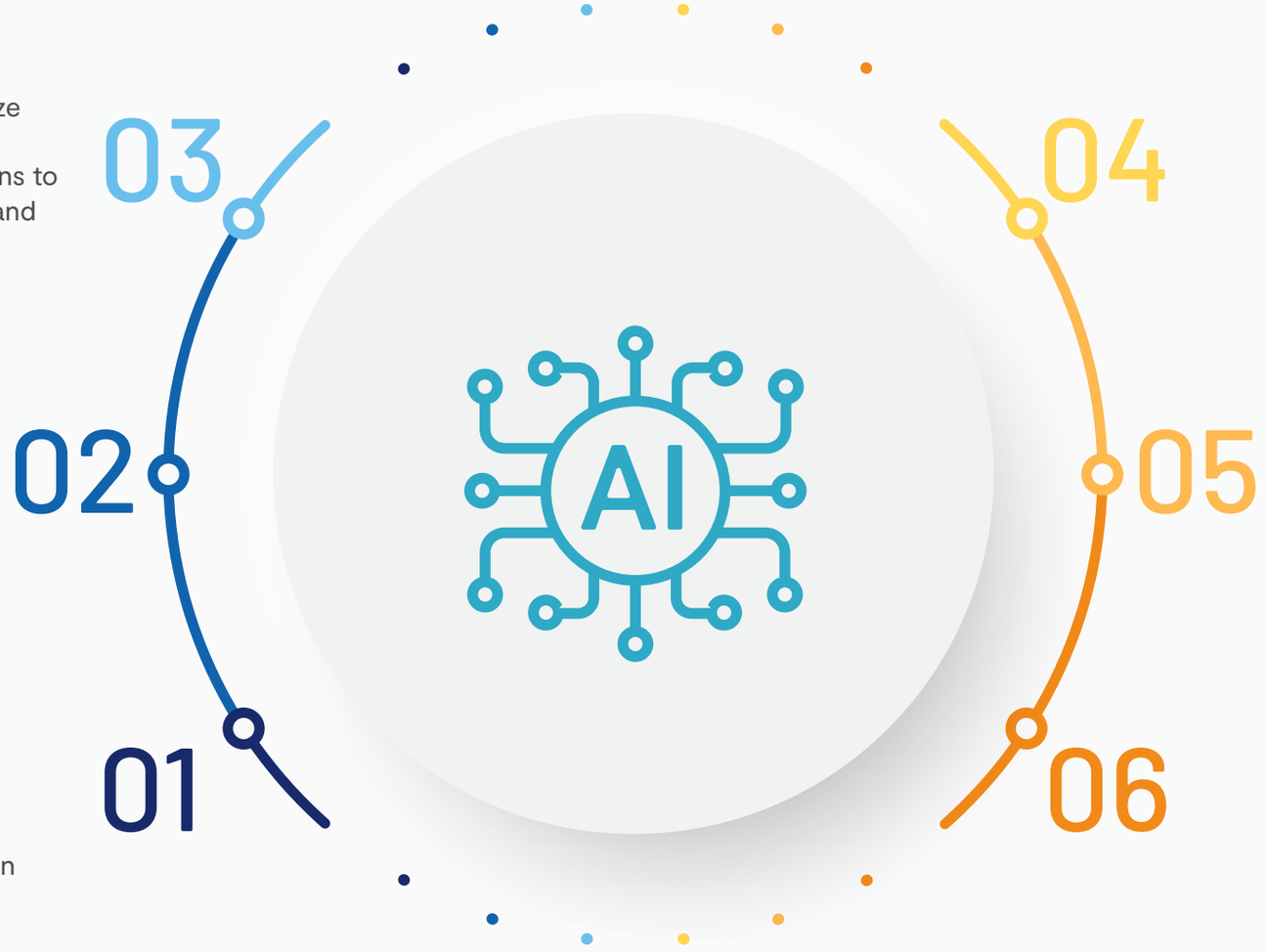
Generative AI can quickly analyze vast amounts of data and make predictions, allowing organizations to make more informed decisions and improve their overall efficiency.

Creativity

Generate new ideas, designs, and content in areas such as art, music, and writing, enabling humans to expand their creative potential.

Automation

Automate time consuming and repetitive tasks, frreing up human time and resources for more complex and strategic work.



Job creation and change

Generative AI will create new employment opportunities and change the shape of exisiting ones, requiring entire indistries to change.

Research

Generative AI being used to simulate complex systems and make predictions, aiding in scientific discovery and advancing fields, such as medicine and climate science. Protein folding as one of the biggest examples.

Personalization at scale

Generative AI can generate highly personalized experiences for users at scale, providing a better user experience and increasing engagement.

Ethics and cybersecurity

“Garbage in, garbage out”, Responsible AI, and the young generations’ control

While AI is able to analyze incredible amounts of data, take decisions autonomously and even predict future needs based on its ability to recognize patterns, there is one thing that AI cannot do: Make up new things without any input. Even creative output is based on whatever was fed into the systems, thus if input data lack quality, the outcome will never be satisfying – and who would like to have cars on the streets that drive autonomously but based on data that were manipulated? Or personal data being used irresponsibly?

Sure enough, that challenge is not a secret. The technology is here, but its self-control is still in the making. AI is picking up on that issue and since it’s able to detect patterns, also the illogical ones and anomalies or data that are simply inconsistent or wrong come to light – and AI throws them in the bin. But again, this is still on the way to perfection, and as long as this is the case, we are best advised to know that systems will produce rubbish if we don’t ensure input is accurate.

“Anyone who digitalises and uses technologies such as AI must deal with ethical issues. Companies should not only master the technology, but also be able to assess its consequences. Just as security-by-design has been around for a long time, ethics-by-design must become the rule.”

Isabell Neubert, Manager DETECON

Milestone regulation with the EU AI Act, and don’t forget about Fridays for Future

Further, we do not only see new technologies arise and cybersecurity departments experience an uplift in relevance, but a generational shift also: While maximum outcome may have been desirable over the last decades, younger generations set different priorities. Students and young professionals today are well aware of climate change issues and favor purpose in their work over career progress and money. They have no planet b, as they say, so they assess and buy products in a completely new way and put sustainability at the core of their decision-making process. If a business doesn’t adopt a 360° view on technology and society, even the best AI setup may turn you into a business non grata, making it so important to consider all touchpoints of a business with the outside world.

With this, there couldn't be a better time for AI to lift off since younger generations watch developments like a hawk. Thus, leveraging ethically responsible AI is not only something that should be self-evident for developers, but will only be accepted if it convinces younger generations. But who defines the criteria for what is good and what is not?

Another good news is that this has long been taken care of: If companies want to benefit from reponsible AI, they must watch out for regulations and apply rules, especially when we allow for technology to take decisions itself. Across the world, people are surprisingly unified in their view that AI needs to be regulated. In December 2023, the EU passed the largest bill of its kind when Brussels made a pan-European attempt to regulate AI – so that people benefit from opportunity but need not fear the risk.

Are you ready for AI?

What is challenging is that there is no such thing as the ethics. Nations are being run very differently, cultures vary, religions anyway, and with this, it's hard to find consensus on what rules to follow. Following legislation is self-explanatory, taking utmost care that any AI product is based on neutral data usage is the other. Some were experiments, some insights were discovered by chance, but if you ask an AI chatbot for images of terrorists and you receive a collection of arab men in their twenties, it's a clear sign of biased usage of data. The same applies when AI HR bots prefer male applicants over females just because they were trained with male persons' CVs. Even worse as it's deadly dangerous, let's take the autonomously driving car again, and just imagine what happens when you train the car with images of caucasian people and have it drive streets with people of colour crossing afterwards.

Garbage in, garbage out, is the rule of thumb. AI will have a huge and beneficial effect on mankind, however we have to watch out we use it responsibly when creating new services. We certainly arrived at a crucial point in the development of mankind: Let's make sure history reviews will be full of praise about the ingenuity and responsibility of our generation – and there are abundant opportunities to reach that goal.

Doing our homework right has never been more important for all aspects of our lives than today.

"Trust has always been an issue when it comes to technology. With AI, creating trust is the key differentiator for any product. If you can't create trust, not even AI can help you sell. But the good news is: There are ways to use AI in secure and responsible ways."

Isabell Neubert, Manager DETECON

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How can we help you: From trends to impact

With the Digital Engineering Center, DETECON has established an expert team to help clients master entering the world of AI and analytics, starting from defining and developing business models to their implementation, taking into account all relevant aspects beyond mere business growth such as sustainability, ethics and cybersecurity. We help corporations reach higher efficiency and create future-proof environments for their employees. With the AI Navigator, we define the right starting points for any given business and support throughout the upgrade phase to becoming AI-ready across all business dimensions.