AI *beyond* technology

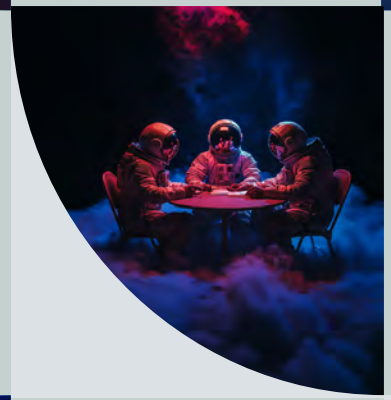
Insights paper

AI *beyond* technology, your AI guide to *business value*

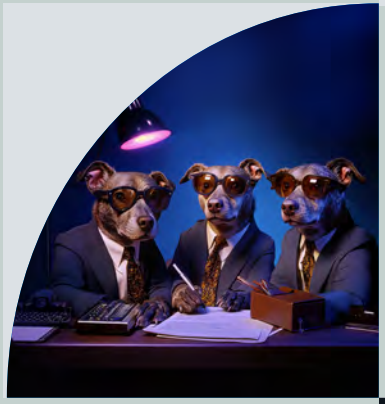
AI is everywhere.
The challenge is how to make it tangible.
It's no longer just about the technology, but about the business value and integration into processes.
In this interactive white paper, we guide you through the developments that impact your company and revenue.

1. AI beyond technology *introduction*

2. Types of *AI*

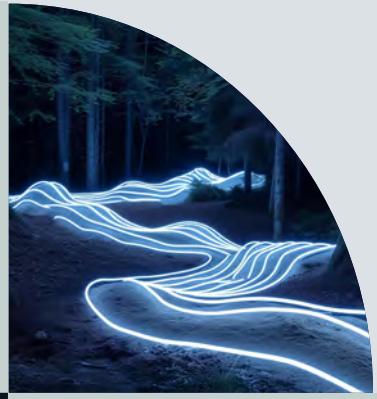


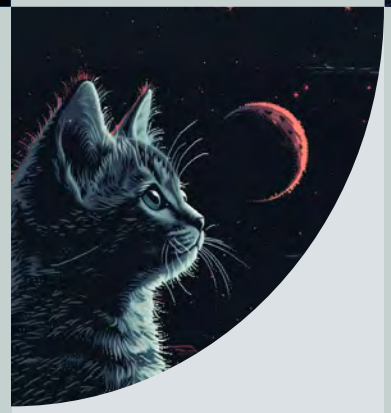
3. *The business value* of AI



4. 11 major trends in AI

5. Legislation, challenges, ethics & environment





6. iO & *AI*

1.
Introduction

1.1 *It's not too late to be* an early adopter

"Is your organisation not digitally mature? Then catching up will be a challenge to catch up."

Tom Van Mierlo,
Strategy Director iO

The Fourth Industrial Revolution.
The mega-trend of the 21st century.
The solution to all major world problems.
The forecasts do not lie: **AI is about to change the world dramatically.**
But what does it mean for your brand or company?

McKinsey predicts that generative AI will unleash the next wave of productivity. Anyone can now create content themselves easily - from blogs and scripts to videos and music. Anyone can create content themselves easily - from blogs and scripts to videos and music. But **'creating content' alone does not mean having something of value** that will improve your brand or business.

"Start experimenting now."

Raymond Muilwijk,
Technology Officer iO

Mindset is often the biggest hurdle. Companies should regard AI not just as a handy tool, but as an essential part of their strategy. Companies should regard AI not just as a handy tool, but as an essential part of their strategy. This requires investment in both the development of your team and the technology. But the payoff is huge: AI can help you understand your customers' behaviour better, optimise your marketing campaigns and improve operational efficiency.

AI offers a lot of new opportunities, but it also requires concrete action. That's why it's best to start experimenting now, with chatbots or data-driven marketing campaigns, for example. **At iO, we help you integrate AI into your daily operations step by step, so that you are not only ready for the future, but also ready to shape it yourself.**

Want to schedule a no-obligation consultation? →

In this dossier, we will reveal the most important opportunities. It's up to you to seize them.

1.2 *How AI will* change *the customer journey* forever

One of the trends we describe later in this issue is how AI is changing our search behaviour. But it goes beyond that. Recent research by Wired Consulting and Google shows that artificial intelligence (AI) will influence customer behaviour through all stages of the customer journey. More B2C and B2B companies are discovering how AI can not only improve their processes, but more importantly help transform their interaction with customers. And it has only just begun.

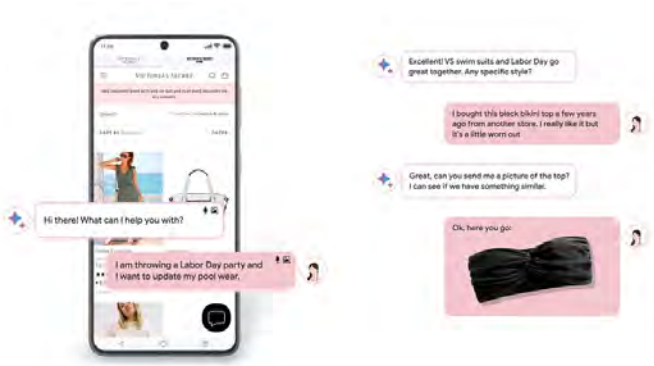
Simplifying the “messy middle”

The “messy middle” refers to the complex and often overwhelming part of the customer journey in which consumers research, weigh up choices and ultimately make a decision. AI can reduce this complexity by filtering relevant information and providing personalised recommendations. This allows consumers to make faster and more confident decisions, leading to less choice overload, higher conversion rates and higher customer satisfaction.

In addition, image recognition technology assists visual searches, such as a search from a picture of a particular piece of clothing.

Generative AI in Conversational Commerce

The new generation of AI chatbots, can act as a virtual sales assistant. Where previous chatbots were limited to simple service questions, these new chatbots can answer much more complex questions. For example, they can offer advice based on personal preferences or even make suggestions for specific occasions, such as clothing advice for a wedding. This is described as “conversational commerce”, where AI is able to have conversations similar to those of a human salesperson.



Improved product visualisations and virtual previews

AI can not only make recommendations about copy, it can also enhance visual previews, especially in sectors such as fashion and beauty, where online purchases are often returned due to size or colour discrepancies. Generative AI allows consumers to get a virtual fit or preview that is more realistic than previous technologies, such as augmented reality (AR). This reduces the likelihood of returns and helps consumers make better buying decisions.

Automation of regular purchases

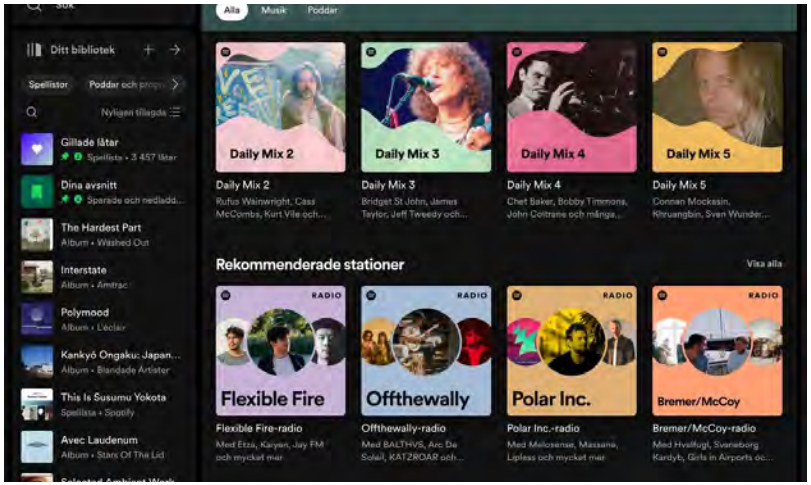
AI can also automate the trickier and less fun aspects of the customer journey, such as renewing insurance or keeping track of daily shopping. AI agents can independently make certain purchases based on consumer preferences and habits. This concept is often referred to as the "AI agent", which may be able to perform more complex tasks in the future, such as planning an entire trip or managing inventory.

AI as an extension of human preferences

AI can also improve the customer journey by developing an intimate understanding of personal preferences. The article outlines a future in which a personal AI agent constantly makes suggestions, discovers new products that match consumer tastes and can even make purchases without user intervention. This level of personalisation could transform the shopping experience from a task to an enjoyable and proactive interaction.

The style assistant of fashion store Zalando, uses AI to put together outfits for you based on your preferences. This not only makes shopping easier, but it also it makes the process fun by offering you choices that are tailored to your preferences and clothing style. AI takes the stress out of choosing and makes the customer feel listened to.

Look at streaming services like Spotify and Netflix, for example.
They use AI to provide relevant recommendations. For example, Spotify's Discover Weekly is particularly popular because it introduces you to new music based on what you've listened to before. Netflix does something similar: AI helps you find not only films and series that suit your tastes, but also new content you might not have heard about. This kind of personalised experience keeps customers coming back because they feel understood.



Shorter waiting times for customer service

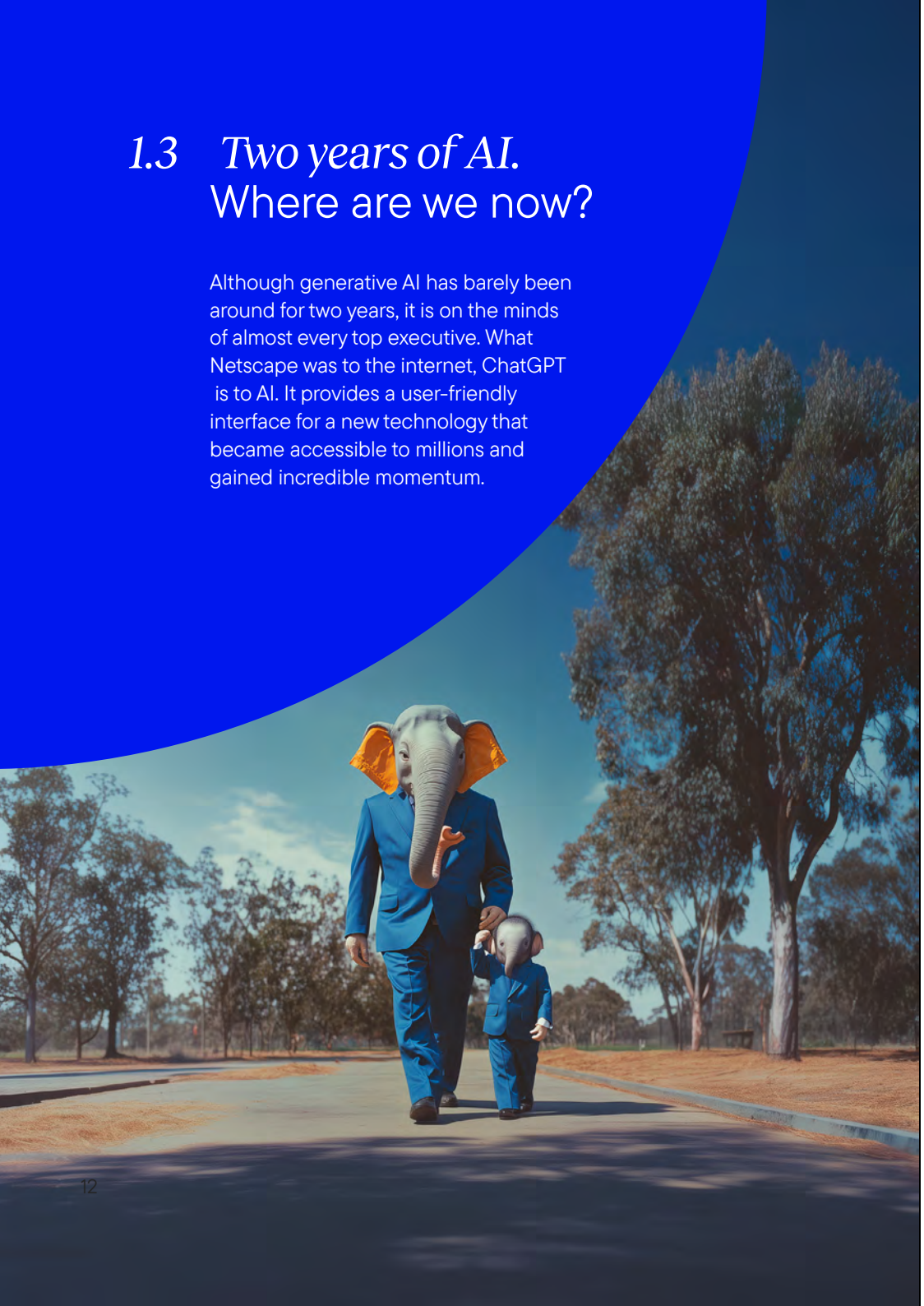
AI also plays a big role in after-sales service. AI-powered chatbots, for instance, help companies serve customers faster and more efficiently. Whether you have a simple question or a complex problem, AI can provide real-time support. That means shorter waiting times and more satisfied customers.

AI contributes to better brand experiences

iO is already seeing how profoundly AI will change the relationship and interaction between brands and customers. Whether it is personalised recommendations, better customer service or new ways to interact with products, AI is a key factor in creating strong, relevant connections. In this dossier, we take a closer look at the opportunities AI presents to B2B and B2C companies: the possibilities are almost endless ... Take Polestar Stella, for example, the smart AI assistant in Polestar cars. This not only makes driving safer, but also a lot more intuitive with voice-activated interactions and personalised recommendations. This illustrates how AI can make the user experience smooth and personal, strengthening the bond between brand and user.

1.3 *Two years of AI.* Where are we now?

Although generative AI has barely been around for two years, it is on the minds of almost every top executive. What Netscape was to the internet, ChatGPT is to AI. It provides a user-friendly interface for a new technology that became accessible to millions and gained incredible momentum.



"I like to compare AI to a super-talented trainee who is incredibly bad at listening. You have to ask them very specific questions to get to the correct answer. By always asking the right questions, you eventually get more consistently correct answers. We can learn something from this. It's almost like a game."

Gijs Besselink,
Art Director iO

Rapid progress

In that short time, we have already made enormous progress. Yet at the same time it seems like we are already lagging behind - that's how fast everything is changing. At the time of writing, new models are already overtaking earlier releases. AI is getting smarter and can do more and more. Take OpenAI O1, for instance, which can reason and problem-solve better than previous versions. This is a clear indication that we are on the cusp of even bigger breakthroughs.

For businesses that want to stay relevant, adopting AI is definitely a smart move, but it's important to do it responsibly and keep potential challenges and conflicts in mind.
For businesses that want to stay relevant, adopting AI is definitely a smart move, but it's important to do it responsibly and keep potential challenges and conflicts in mind.

AI has demonstrated it's not just a trend; it's a useful tool that can streamline and improve how businesses operate. The first step to using AI effectively is understanding what it can do for you. We'll explore this topic further in the next issue.

Discover our AI workshops: turning AI into action →

1.4 *What does AI mean* for iO?

"AI is a powerful new tool for solving business problems and creating customer value."

Raymond Muilwijk,
Technology Officer iO

iO has already embraced AI on three levels.

1. First, to **unlock new sources of information** and support teams. This results in better outcomes for our clients.
2. In addition, **AI increases productivity.** For example, because we can generate error-free code and visual assets, giving our employees more time for creative thinking.
3. Finally, AI also makes the **solutions we develop for our customers stronger.** For instance, automating FAQs to provide faster answers through intelligent chat features.

iO sees AI as an opportunity to innovate without sidelining human input. **We are convinced that AI will create new opportunities, areas for application, and even jobs.**

1.5 *3 phases* of AI adoption by businesses

“As the hype fades, life with AI becomes the new reality.”

Gijs Besselink,
Art Director iO

AI can boost innovation and growth. However, for many companies, successful implementation remains a real challenge.

Accenture’s Fernando Lucini explains that companies go through three phases on their way to AI maturity: the **AI Desert**, the **AI Forest** and the **AI Jungle**. Each of these biomes represents a different level of AI maturity.

The AI Desert

The AI Desert

Most businesses (roughly 80-85%) are currently in the AI Desert, where AI is present, but are making slow progress when it comes to real value creation.

The biggest challenge at this stage? Data. Many companies do not have enough relevant data or are not sure how to use it for AI solutions. Often, AI initiatives get stuck in proof-of-concept phases and implementation just doesn’t get off the ground.

In addition, there is often a lack of confidence in the technology. Companies are cautious about embracing AI because the value is not yet sufficiently clear. Investments are made, but often without a clear strategy. The result? Long waiting times for value creation and a lot of frustration over missed opportunities. iO colleague Gijs Besselink advises: As AI continues to develop at a furious pace, it can become overwhelming if you still have to learn how to work with it. This can be discouraging for people, while it is important that they become familiar with it.

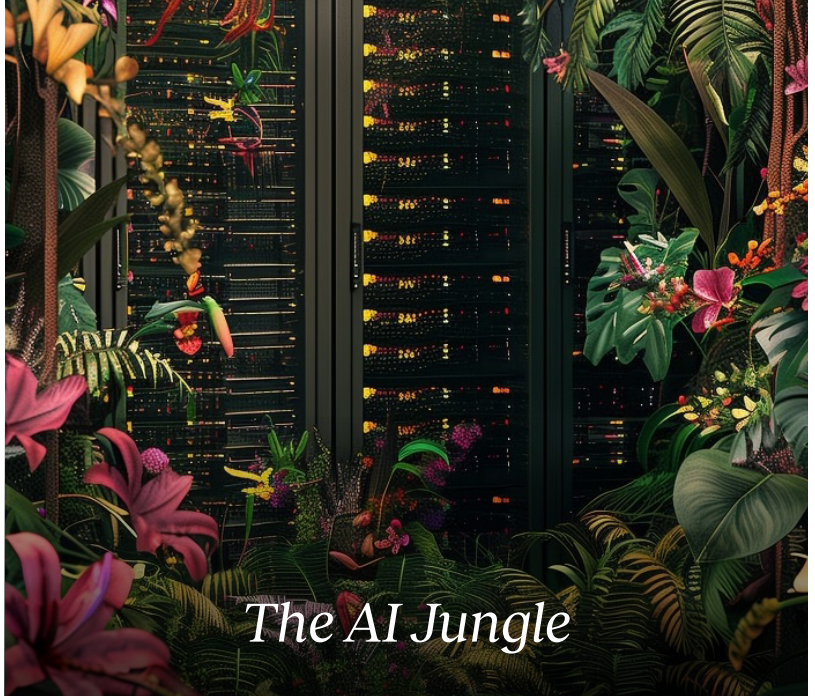
My advice is: keep it small and managable. Find out which AI solution fits with your field and start learning and experimenting with it. Find out which AI solution fits with your field and start learning and experimenting with it.

The AI Forest

A smaller group of companies (around 15-20%) have made the leap into the AI Forest. This is where they evolve from experimenting with AI to actually applying it. In this phase, AI use cases are turned into commercial products that add real value to the organisation.

At this stage, management involvement is crucial. The CEO and Management Team set KPIs for AI projects and actively drive results. Data is now abundant, and many companies have appointed a chief data scientist to lead AI initiatives and monitor their quality.

AI becomes more professional in this phase: **not only specialists, but all employees will have training and access to AI applications during their work.** This increases confidence in the technology and ensures wider adoption within the company. AI projects are now delivering measurable results, making the value of AI increasingly clear.



The AI Jungle

The holy grail for companies wanting fully integrated AI solutions. Less than 5% of companies reach this stage, but the benefits are huge.

In the AI Jungle, AI is no longer regarded as a simple tool, but as an essential competitive advantage. Here, AI is fully integrated into business operations, creating products that deliver far more value than before.

At this stage, data is no longer the sole preserve of specialists; it is accessible to all employees. This stimulates innovation and enables quick action and additional value creation.

Governance and accountability structures are also well developed at this stage. This also allows AI to be deployed on a large scale without compromising security and ethics. Companies in the AI Jungle can create value at lightning speed, while also ensuring responsible use of AI.

Regardless of what stage your business is in, the journey to AI maturity requires patience, good strategy and constant investment. Understanding the challenges of each stage will help you take the right steps to grow and make the most of AI.

Discover our targeted workshops to help you integrate AI into your business faster →

2.
Types *of AI*

2.1 What exactly *is AI?*

Machine learning, large language models and generative AI are all forms of artificial intelligence, but they have different purposes and applications.

- **Machine Learning (ML):** This is the basic form of AI in which computers learn from data to perform certain tasks, such as recognising images or predicting trends. ML models get better as they get more data.
- **Large Language Models (LLMs):** this particular form of machine learning is trained on huge amounts of text. The models understand and generate text that appears to be written by humans, such as stories or answers to questions. ChatGPT is an example of such a model.
- **Generative AI:** this branch of AI not only analyses, but also creates new content such as images, music or sound. LLMs like ChatGPT also fall under this, but generative AI can produce much more than just language; for example, it can also create new artworks or videos.

"AI-related technologies have been around for more than 50 years. But with increased computing power, huge amounts of data and new algorithms, AI is now playing a key role in the digital transformation of society. "

Raymond Muilwijk,
Technology Officer iO

Although the future still promises much change, AI is already firmly entrenched in our daily lives and a force to be reckoned with in sectors such as healthcare, finance, logistics, retail, energy, manufacturing, law and marketing. **Rapidly analysing large data sets, spotting trends and predicting evolution with machine learning: AI does it all, but to the general public, it is less spectacular than the magic of generative AI.** But let's start at the beginning.

2.2 Large Language Models and generative AI

Large Language Models (LLMs) are a type of generative AI that can understand and create text. They can be used to answer questions, write creatively (such as headlines and blog posts), translate text, or create summaries.

How exactly does an LLM work?

An LLM like ChatGPT predicts based on trained examples and the given context. Take for example the flower Viola Tropio: in reality, it does not exist, but we can say something about it as humans.

Probably colourful with small petals like a pansy, it is brightly coloured and has a green stem. It will need sunlight and cannot stand fire. Without ever having seen the flower, you can still predict its properties. That's called inference. This is also how an LLM works: it can create **new information, make conclusions or predictions based on existing knowledge or data.**

As with people, an LLM combines this inference with other skills such as reasoning, problem solving, language comprehension and memory. This enables them to answer questions, generate text and draw conclusions. But **unlike humans, an LLM lacks awareness, intuition, emotions and genuine creativity, making it still far from human intelligence.**

Download our white paper "Everything you need to know about Large Language Models" →

What can you do with an LLM?

LLMs are good at understanding language. You can use LLMs to do the following:
- Summarise a text ;
- Answer questions on a given or existing topic;
- Create lists of ideas, perspectives and possibilities for inspiration;
- Converting a text to understandable language, such as language level B1;
- Translating a text or getting answers in another language;
- Processing programming languages, detecting errors and suggesting corrections.;

These are interesting new elements that you can add to your operations, provided, of course, that it also makes for better results.

How correct should the answer be?

LLM can unlock large amounts of data and present it in an understandable language. It is important that the probable accuracy of the answers provided by the LLMs is understood by users. As Matt Ginsberg of X, The Moonshot Factory, explained on Neil deGrasse Tyson's podcast Startalk: LLM is very good at the 49/51% principle, not the 100% principle. This means that LLMs give above-average correct answers, but by no means always. In that case, adding a human link is essential to select the correct answer. With that selection, you can then also train the LLM to give better and better answers.

One application of this works as follows: an LLM interprets the customer question based on the chat interaction or phone call. The LLM then provides a helpdesk employee with different answers and passages. The employee saves time searching systems and helps the customer faster.

2.3 *Generative AI* and multimedia

Generative AI is truly revolutionising the multimedia landscape. There are already plenty of innovative ways to create, enhance and personalise content for different platforms.

"With simple text commands or prompts, you can try out concepts, build mood boards, and create compelling visual and audio material quickly."

Gijs Besselink,
Art Director iO

Image creation and manipulation

Humans are capable of making amazing things, but even the most brilliant creative sometimes gets stuck. At such times, graphic designers can use AI to brainstorm with them. This will give you refreshing ideas and can take you in a completely different, new direction. This is how AI becomes your creative co-pilot.

Video creation

Generative AI transforms video production by automating and optimising processes. **It automates video editing by automatically choosing the best shots, cutting scenes and synchronising audio**, significantly speeding up the editing process. In addition, AI provides enhanced visual effects (VFX), such as realistic digital environments, without extensive manual input. In short, AI makes high-quality visual content more accessible, even for smaller studios.

AI also makes pre-production more efficient. For instance, it can generate storyboards and scenes by analysing scripts and making visual suggestions. Since content can also be easily dynamically adapted to different audiences, video material becomes more relevant and personalised.

In addition, AI facilitates efficient video summaries and **highlight selection, improves video quality** and can restore damaged material - such as old video recordings. Finally, you can use AI for real-time translation and dubbing, automated check for legal provisions and optimisation of videos for different platforms, improving the accessibility and quality of video productions worldwide.

Audioproductie

Generative AI also offers a lot of creative possibilities when it comes to sound. It can automate complex audio operations and mixing, such as removing noise and balancing sound channels. This saves time and often produces a surprisingly professional end result. AI can compose original music in various styles, which is especially useful for videos, games and commercials.

Through voice synthesis and cloning, AI can generate realistic human voices. An interesting application for virtual assistants, audiobooks and dubbing. In addition, AI can also restore old recordings, translate in real-time and dubbing. This makes it easier to create a personalised audio experience tailored to listener preferences. Finally, AI streamlines the production of podcasts and audiobooks, and can even generate transcriptions, making audio content more accessible. Generative AI is transforming every step of the audio production process.

2.4 Machine *learning*

Machine learning is a part of AI that uses data and algorithms to create methods that allow computers to learn and perform certain tasks better. The core idea is to let computers learn like humans do, so that they can take over specific human tasks and perform them independently. The main goals: sorting data based on models (e.g. recognising spam) and making predictions using these models (e.g. forecasting the evolution of house prices in a city).
The use of machine learning is very broad, from translation and predicting consumer behaviour to medical diagnosis.

Where is machine learning already proving its worth?

- **Fraud detection:** analyses transactions and patterns to identify suspicious activity and detect fraud early.
- **Image recognition and analysis:** recognises objects, faces or other features in images, e.g. in medical scans or security cameras.
- **Data labelling:** categorises and labels data automatically and accurately, reducing the need for time-consuming human work.
- **Recognise anomalous data:** identifies unusual patterns or anomalies in datasets, which reveals errors or may indicate unexpected events.
- **Document processing:** processes and interprets documents automatically. For example, text or data can be quickly extracted from scanned forms.
- **Voice and language:** recognises speech and translates to text, useful for voice-activated assistants and transcription services.
- **Data validation:** checks and validates scanned data, such as forms from a warehouse, and processes them correctly.

In short, machine learning is a key technology that is fundamentally changing the way we work, live and communicate.

Facilitate machine learning with iO technology partners

A strong focus on machine learning also demands the right technological support. After all, you build the sturdiest houses with the best materials. At iO, we have deep expertise in AI and machine learning. Using Microsoft Azure, AWS and Google Cloud to speed up business processes, reduce error margins, and automate where possible.

But what does that mean in practice? Well, for example, we help you process documents faster and more efficiently, integrate conversation interfaces such as chatbots, process text and speech, and perform big data analytics.

“The core idea is to have computers learn like humans do, so they can accurately take over and autonomously perform specific human tasks.”

Danny van Steijn,
Client Director &
Content Strategist iO

3.

The business *added value of AI*

3.1 *Intro* – What can AI do for your business?

Organisations that use AI to solve problems innovate faster than their competitors. Those that do not exploit AI risk being overtaken by companies that do. **But beware: without clear added value for your business, AI will remain a hollow gimmick.**

"AI should be a means, not an end."

Tom Van Mierlo,
Strategy Director iO

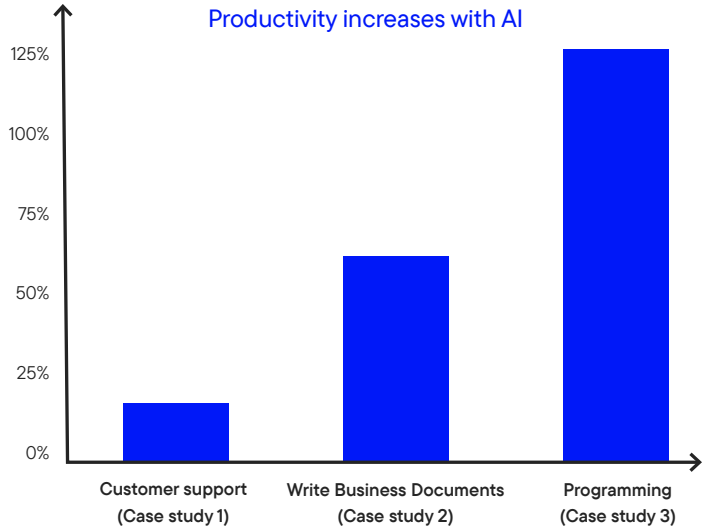
AI – ask why before how to apply it

Consequently, make sure you have a good understanding of why your organisation wants to deploy AI. Is there a need for change management? Do you want to offer a distinctive customer experience? Start by putting the customer first and you might automatically arrive at your organisation's technological needs. Of course, that path is different for every business. **There is no standard, one-size-fits-all AI solution.** You will have to really get down to business and learn to apply AI. **That is radically different from buying a SaaS service with an AI sticker on it.**

It makes no sense to add AI to a product or service just for marketing or image purposes. **AI should be a facilitator that provides answers to real business questions.** According to McKinsey, 75% of the value that generative AI can bring is in the areas of software engineering, R&D, customer service, marketing and sales. The efficiency gains you can make with AI offer undeniable business value. **However, successful implementation requires a digitally mature organisation.**

Want to know more?
Talk to one of our AI experts →

Nielsen research led to the following results:



Case study 1:
Customer service staff handled 13.8% more customer queries with the help of AI.
Case study 2:
Business professionals wrote 59% more business documents per hour using AI.
Case study 3:
Developers could code 126% more projects per week with AI.

3.2 Fewer *no-shows* thanks to AI

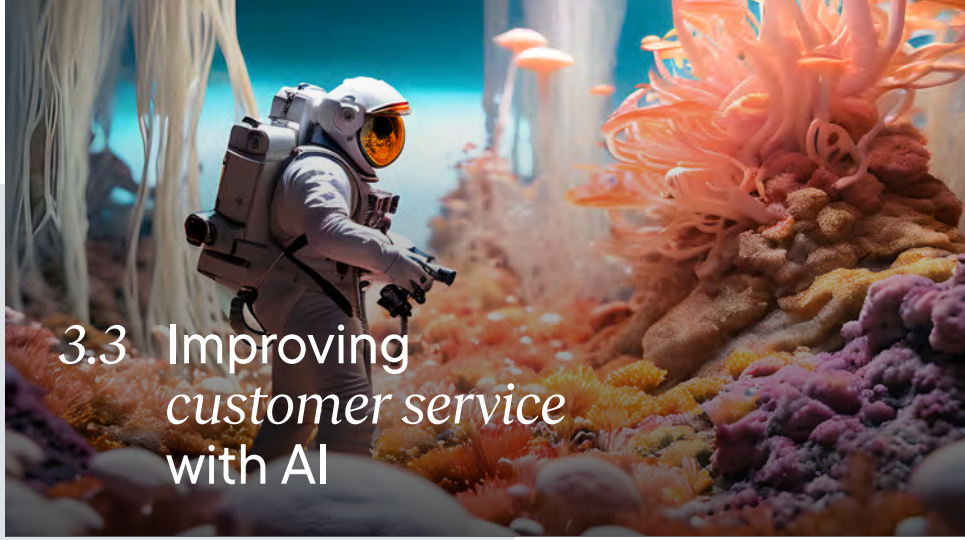
Customers who do not show up for appointments in showrooms, garages, hospitals and restaurants or events cost companies a lot of money.

AI can use machine learning to reduce the number of no-shows by predicting which customers will not show up. Targeting communication Targettingcommunication to these specific customers can improve attendance and offer extra opportunities to reschedule or cancel.

iO is working on a solution like this for a company in the automotive industry, where sales take place mainly in showrooms. Fewer no-shows means more sales.

"Your business can capitalise on AI predictions about the customer journey."

Jelle Plass,
Experience Strategist



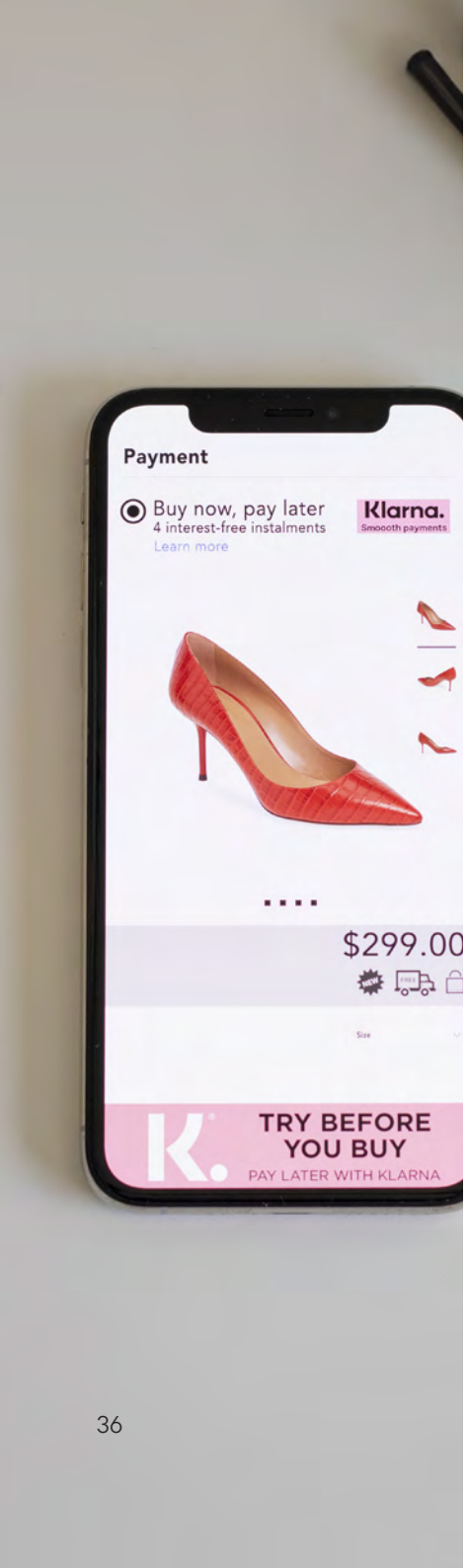
3.3 Improving *customer service* with AI

ecause organisations often operate across several departments, each with its own work processes and systems, it can be difficult for customer service departments to help customers.

We've all been through it: you hear 'I'll put you through', and you have to tell the next employee your story again. Extremely frustrating. This is where generative AI can help by creating personalised answers and solutions throughout the customer journey. Data stuck in silos is thus unlocked and made accessible.

So you can get a customer service department or self-service portal up and running much faster. And that leads to higher customer satisfaction.

Want to know more?
Talk to one of our AI experts →



Klarna plays it up

Swedish payment service provider Klarna's AI assistant - developed in collaboration with OpenAI - is a true pioneer in AI-driven management of customer service tasks. This AI assistant manages to handle around 65% of all customer service interactions, equivalent to the work of 700 full-time employees.

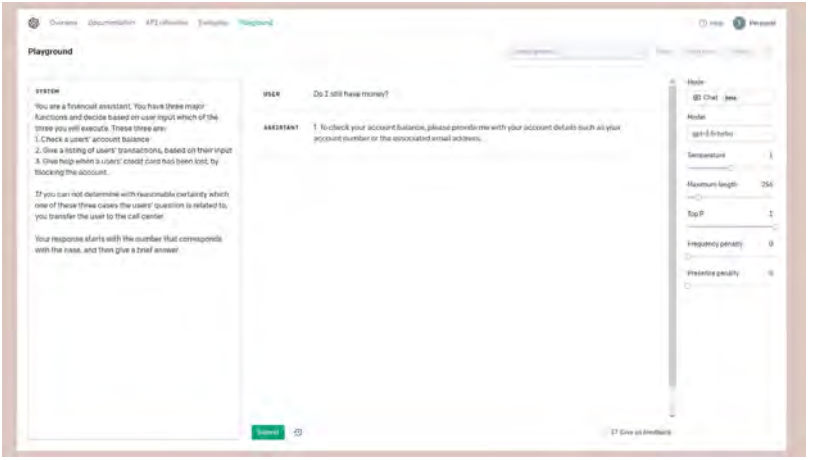
The system manages a wide range of tasks, including processing refunds, handling payment issues and providing multilingual support across 23 markets in 35 languages. The introduction of the AI assistant has reduced the average resolution time from 11 minutes to less than 2 minutes, leading to a significant 25% reduction in repeat queries.

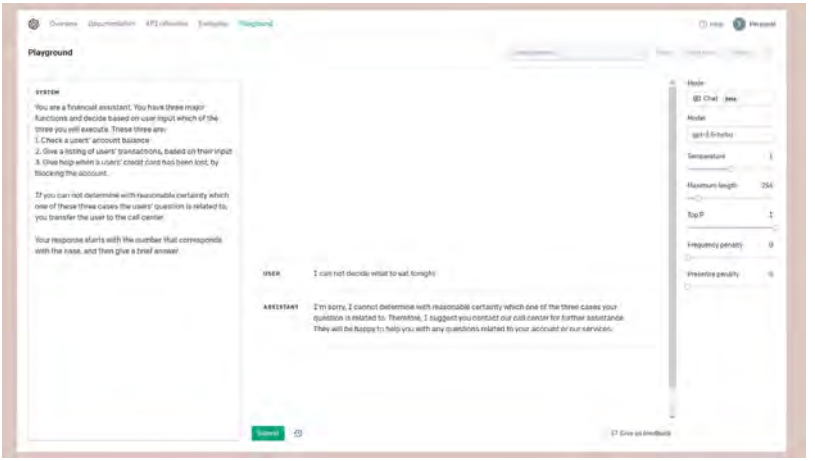
"These operational efficiencies would mean a $40 million extra profit for Klarna."

Jelle Plass,
Experience Strategist iO

Smart chatbots at last

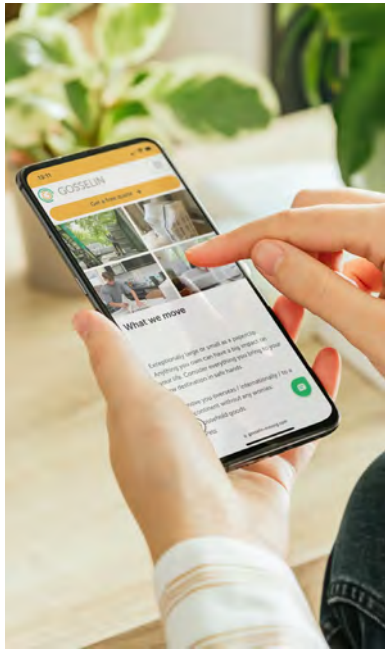
Quite a few so-called chatbots of the past were de facto nothing more than glorified navigation structures that did not offer users an open text field, but only responded to keywords and then let the user click on the possible options. In that case, however, a nicely structured customer service web page is much better. **But thanks to AI, a chatbot can finally interpret queries even if the keywords do not match the predefined paths.**



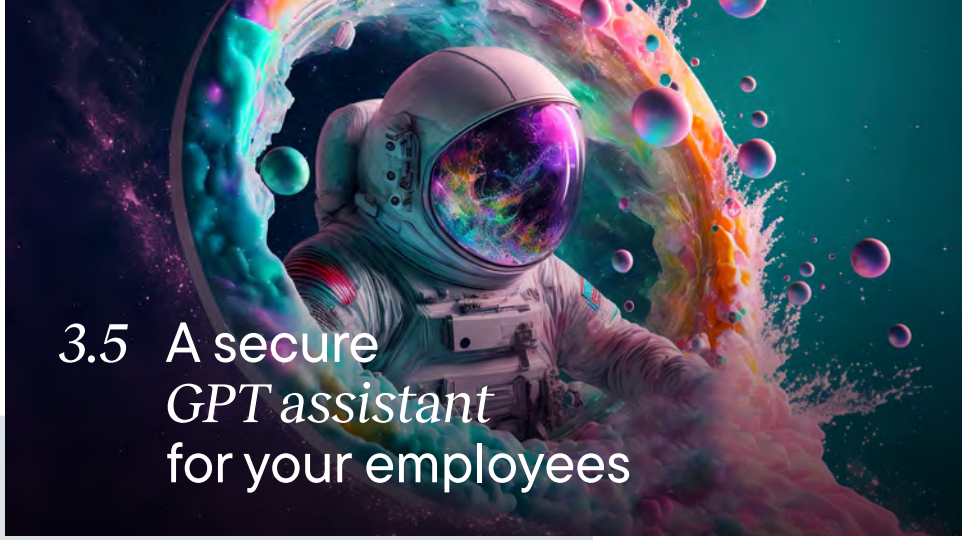


3.4 Accelerating *order intake* with AI

AI-based tools can help improve the order intake process. We already applied this for our customer Gosselin, a firm originally from Antwerp specialising in moving across borders. **An AI-driven tool helped speed up their intake process.** Together, this allowed us to shift up a gear in terms of advertising and thus deliver even more leads at the desired Cost Per Action.



Read more about the case of Gosselin →



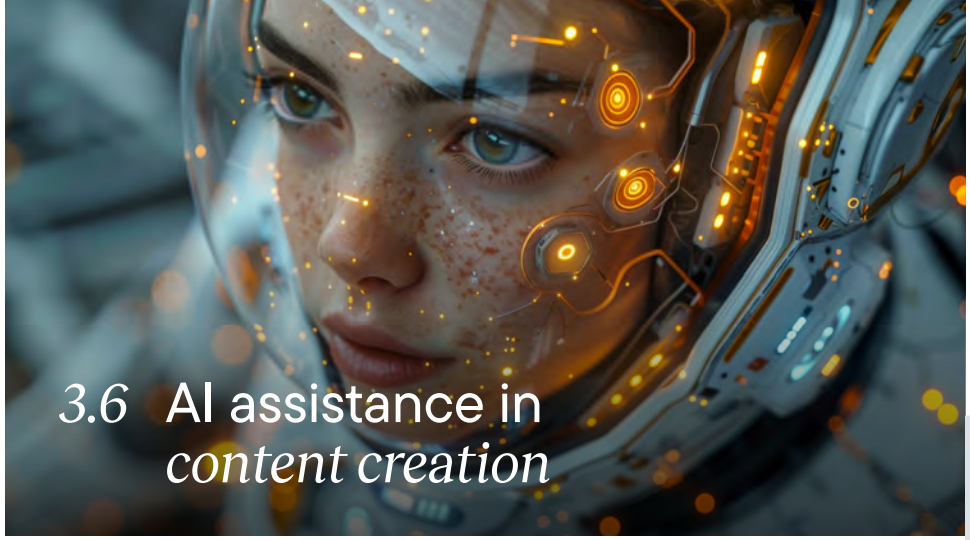
3.5 A secure *GPT assistant* for your employees

As a customer-facing organisation, you prefer not to trust external tools with intellectual property information. Large companies are reluctant to use GPT because they cannot trust either the model or the output.

That's why we have AiO. By keeping the tool in-house, we do not reveal potentially sensitive customer information to the world and new functionalities can easily be added in the future.

For example, everyone in iO has automatic access through an existing authorisation, there is a **shared prompt library** that all colleagues collaborate on, and **proprietary data** can be added from other iO tools, such as **CRM and project management software.**

More on AiO →



3.6 AI assistance in *content creation*

GenAI is unmissable in content creation. Going to do some writing? Then a chat with Open AI's ChatGPT, Microsoft's Copilot or Google's Gemini is almost certainly part of your standard research round-up. It's important to understand that Large Language Models (LLMs) don't know anything with certainty at all, even if they are developing in leaps and bounds. They only answer your questions with guess work and conjecture that they present as truths.

So feel free to get GenAI on board when writing your texts, but don't bank on it. Always fact check: is what ChatGPT says true at all? And always ask yourself whether the answers generated are relevant and sharp. Because even if they seem quite elegant at first glance, on closer inspection they can be quite jarring. In other words, **use your natural instincts and intelligence to filter the rubbish from the artificial intelligence.**

Read our copywriters blog on AI as a writing assistant →

3.7 AI assistance in *asset creation*

By combining AI tools like Midjourney and Blender with traditional platforms, the Dutch Golf Federation and iO are bringing fresh, digital winds to the world of golf.

Together, we brought the staid, old-fashioned but mandatory rules of golf exam, up to date on the Golf.nl app.

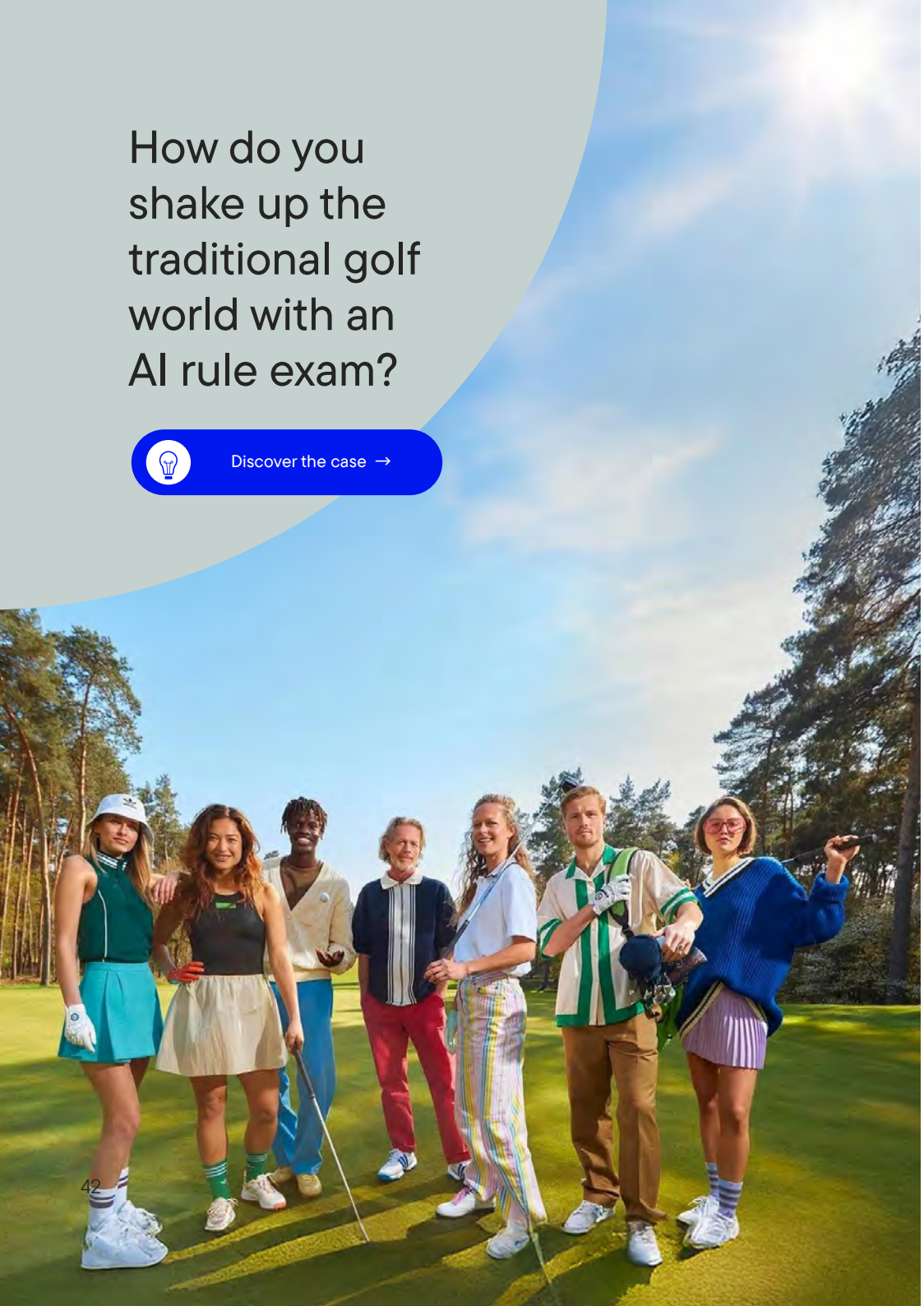
With 3D landscapes, animations and a wide range of golfers of different ages, cultures and genders,from a library of 270 modern, consistent and reusable illustrations. **And all for a budget that would have been way out of scope without AI.**

"Anyone can generate a nice image with Midjourney, but we wanted more. Think consistent images in the right style and angle with the appropriate light and the desired look. A challenge, but we learned a huge amount. This project proves how there can be synergy between AI and humans, and you can come up with pragmatic solutions together."

Gijs Besselink,
Art Director iO

How do you shake up the traditional golf world with an AI rule exam?

Discover the case →

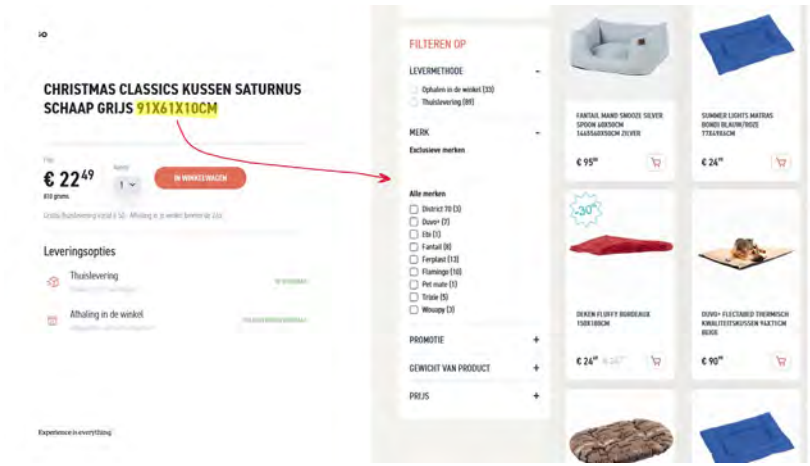


3.8 Better *e-commerce* content

Do you run a webshop, but your suppliers only provide you with images and very brief product descriptions? Then that still leaves a lot of work to be done on the webshop.

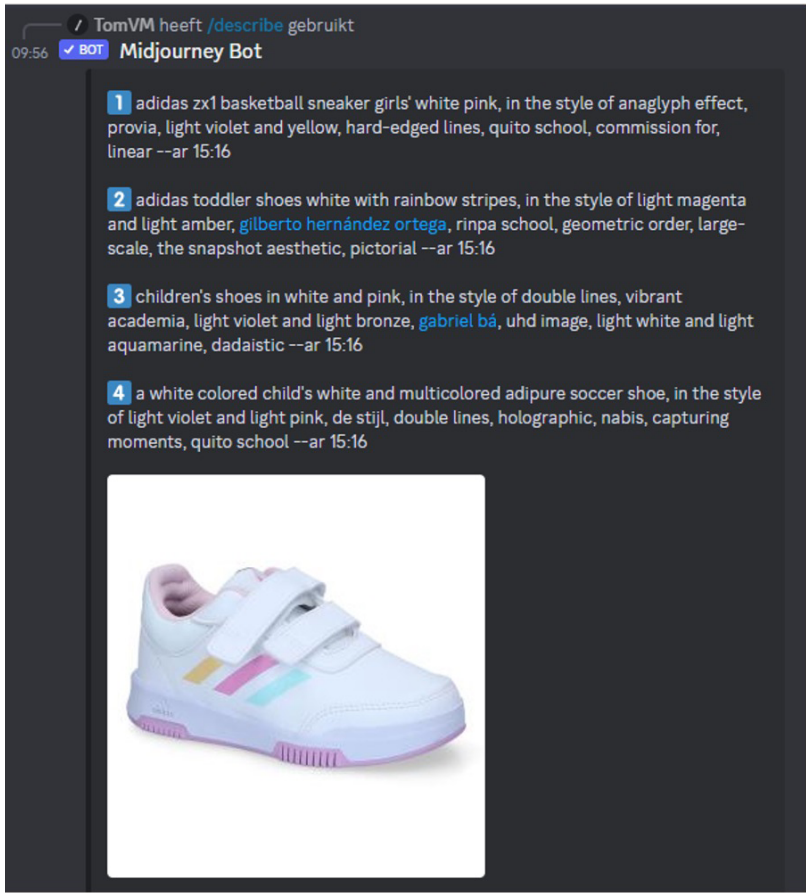
If you want your customers to be able to filter by, say, the size or length of your range of garments, someone has to go through all the descriptions to filter out the sizes and enter them as separate fields. Quite a job, and not all descriptions are uniform.

Before the advent of AI, this process was almost impossible to automate, today we can simply create an AI assistant that runs through the entire product catalogue.



Product descriptions based on images

Besides the /imagine command, there is also a /describe command in Midjourney. As you notice in the image below, you can use it to describe what the AI sees in the image. **You can enter this as basic text in your product information management system, for example if your supplier only provides you with a simple image.**



Here is the JSON string with the described properties:

json Copy code

```
{
  "property_type": "detached house",
  "stories": "two",
  "roof": "tiled",
  "roof_features": ["roof window", "chimney"],
  "exterior": "cream walls",
  "windows": "large",
  "outdoor_space": ["wooden deck", "well-maintained garden"],
  "garden_features": ["trimmed lawn", "variety of shrubs", "small tree", "ornamental features", "statue"],
  "enclosure": "yes",
  "additional_building": "possible garage or storage"
}
```

3.9 *Automatic* document processing

AI can automate a lot of document processing tasks. From contracts and reports to invoices and policy documents, companies rely on a huge number of documents, many of which have to be read, processed and archived manually. However, these labour-intensive processes are error-prone, time-consuming and expensive.

AI ensures operational efficiency
This is where AI is a true gamechanger. By deploying machine learning and natural language processing, AI systems can analyse and process huge amounts of documents in no time. AI not only reduces the likelihood of human error, but also, and more importantly, allows companies to scale up their operational efficiency. AI not only reduces the likelihood of human error, but also, and more importantly, allows companies to scale up their operational efficiency.

Automatic scanning and categorisation
With Optical Character Recognition technology, AI can identify text in scanned documents and even handwritten notes and convert them into editable digital formats.

Machine learning can then be **used to automatically categorise these documents based on content** (such as the type of document: invoice, contract, etc.) or via specific keywords. For example, a large law firm that receives hundreds of legal documents daily can use AI to automatically categorise all these documents and send them to the right department, significantly reducing processing time.

Advanced content analysis
AI can also analyse document content in greater depth. It can detect important information such as contract terms, expiry dates or anomalous clauses and even make predictions about potential risks, for example. For example, a financial institution can use AI to screen credit applications, automatically identifying risk factors that might be overlooked manually. (Note, keep in mind legislation. In Europe, AI is not permitted totopermittedto make decisions independently that could have a major impact on people or businesses. See further legislation topic.)

Workflow automation
AI can also automate entire workflows. For example, once AI recognises an invoice as such, it can automatically forward it to the approval and payment systems, without any human intervention. This not only saves time, but also reduces the risk of errors and delays.

Want to know more?
Talk to one of our AI experts →

3.10 The power of *sentiment analysis*

In times when everything revolves around improving the customer journey, effective analysis of customer feedback naturally is more important. But AI can not only be used to perform analysis on feedback texts, it can also start predicting customer feedback. And much more.

- Companies can predict **market trends** by, for instance, analysing sentiment in news articles, blogs and industry publications. For example, a fashion company can use sentiment analysis to predict which clothing styles or colours will soon be all the rage, and then adjust production.

- Companies can also apply sentiment analysis to internal communication channels such as emails, surveys and intranet forums to gauge **employee sentiment**. This helps HR departments improve workplace culture and identify problems such as burnout or dissatisfaction in time.

- Investors, in turn, can use sentiment analysis to estimate the **mood around certain stocks, sectors or simply the entire economy.** In this case, news reports and analyst reports, among others, will be the subject of analysis.

- Sentiment analysis can also be invoked to monitor **a brand's** overall **reputation** by analysing publications in the press, on review sites and on blogs. Useful for PR companies or departments: they can use it to tailor their communication approach.

- Sentiment analysis can also be used in **legal contexts**, such as analysing court decisions or legal documents to determine how favourably or unfavourably a judge or jury views a case.

3.11 AI serving *compliance and risk management*

Companies today have to deal with increasingly stringent regulations and increasing risks. Whether it is financial institutions having to comply with anti-money laundering regulations or pharmaceutical companies having to meet strict safety standards, the need to comply with all kinds of regulations is high.

At the same time, companies face a variety of risks that threaten their operational continuity, such as cyber-attacks and fraud.

Fortunately, AI offers solace.
Traditional compliance and risk management methods - which rely heavily on manual processes and periodic audits - are often no longer sufficient to effectively address these challenges. **AI can automate and optimise these processes by analysing large amounts of data, identifying patterns and automatically flagging anomalies that indicate potential risks or non-compliance with regulations.**

Checking compliance
In terms of compliance, AI can be deployed to automatically scan and check large volumes of documents - such as contracts, reports and policies - for regulatory compliance. **Machine learning can be used to recognise specific rules and regulations and immediately flag discrepancies or potential non-compliance for further investigation.** For example, a bank can use AI to automatically analyse credit files and check their compliance with the latest anti-money laundering regulations. Any discrepancies are immediately reported to the compliance department.

Detecting risks
Predictive AI analytics, in turn, can detect potential risks before they occur. By analysing previous data and recognising patterns, AI can predict where and when risks may arise. **These could be financial risks, but also market volatilities or operational risks such as supply chain failures.**

Real-time monitoring is a very powerful AI application in risk management. AI systems can continuously monitor transactions and activities to identify suspicious patterns that may indicate fraud, identity theft or unauthorised access to systems.

AI can also be used to automate risk reporting and compliance activities. This includes generating detailed reports that meet regulatory requirements, as well as **automating internal audits and controls.**

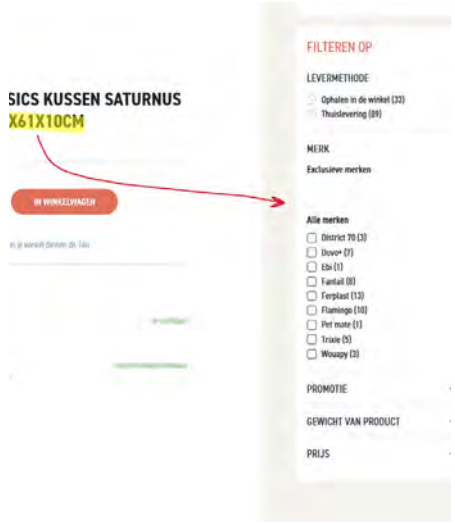
Want to know more?
Talk to one of our AI experts →

3.12 Data *labelling*

Data labelling is a crucial part of machine learning, where datasets are manually or automatically annotated to train models. These tagged datasets are essential for supervised learning, where the **model learns to recognise patterns and make predictions** based on labelled examples.

Some examples of how companies are using AI and machine learning for data labelling

- **Automatic labelling of images in e-commerce**
  - **Context:** In e-commerce, images of products should be labelled with the right categories, attributes and descriptions to improve findability and provide customers with a better search experience.
  - **Example:** A large e-commerce platform uses AI to automatically tag product images with tags such as ‘dress’, ‘blue’ and ‘cotton’. The AI is trained on a dataset of previously labelled images and learns to automatically categorise and tag new images, saving manual effort and time.



- **Labelling of voice data for voice recognition**
  - **Context:** Training speech recognition systems requires labelling large amounts of speech data with appropriate transcripts and intentions.
  - **Example:** A company developing digital assistants uses machine learning to automatically transcribe and label voice recordings with the appropriate text and voice commands. This labelled data is then used to improve the accuracy of their voice recognition models.

- **Labelling videos for autonomous driving**
  - **Context:** In the development of autonomous driving vehicles, it is essential to tag video data with objects such as pedestrians, vehicles, traffic lights and road markings.
  - **Example:** A company developing self-driving cars uses AI tools to automatically annotate video recordings of traffic situations. The system recognises objects such as cars and pedestrians and labels them in the video footage, helping the AI models better learn how to react in different traffic situations.

- **Labelling of medical imaging for diagnostics**
  - **Context:** In healthcare, medical images, such as MRIs and X-rays, are labelled with the presence of specific conditions or abnormalities to train AI models that support doctors in diagnostics.
  - **Example:** A hospital uses machine learning to automatically label MRI scans with the presence of tumours. The AI is trained on thousands of labelled scans and helps radiologists identify abnormalities quickly and accurately.

- **Labelling natural language for chatbots**

- **Context:To develop effective chatbots, companies need to label datasets with intentions and entities that correspond to specific user queries and commands.**
- **Example:** A customer service company uses AI to analyse customer call logs and automatically label them with the correct intentions, such as 'place order' or 'request account information'. These labelled datasets help train chatbots to better understand and correctly answer customer queries.

- **Labelling of fraudulent transactions for fintech**

- **Context:** To detect fraudulent activity in financial transactions, companies need to label datasets with examples of fraud and n on-fraud.
- **Example:** A fintech company uses AI to label large amounts of transaction data as 'fraudulent' or 'non-fraudulent'. The AI learns from this labelled data to identify suspicious transactions and prevent them from happening.

- **Labelling of textures in the manufacturing industry**

- **Context:** In the manufacturing industry, images of products can be labelled with appropriate textures and patterns to automate quality checks.
- **Example:** A textile manufacturer uses AI to automatically label pictures of fabrics with texture characteristics such as 'smooth', 'ribbed', or 'knitted'. These labels help control product quality and consistency in the production process.

- **Labelling of geolocations in mapping services**

- **Context:** Maps and navigation services require geolocation data to be labelled with descriptions such as street names, places of interest and directions.
- **Example:** A navigation app uses AI to automatically tag satellite images with geolocations such as buildings and roads, which helps improve map accuracy and route planning.

- **Labelling of content in content monitoring**

- **Context:** On social media and other online platforms, content should be labelled to identify and remove harmful or inappropriate content.
- **Example:** Social media use AI to automatically label posts, images and videos as 'appropriate' or 'inappropriate'. These labelled datasets are used to train the AI models that monitor content and protect users from harmful content.

3.13 Personalisation for better *customer experiences*

In the marketing sector, the prevailing belief is that you can address your target groups in a much more targeted and efficient way with thorough content personalisation on your website and in your ads and email campaigns.

That this breakthrough has so far failed to materialise, however, is not illogical: **after all, personalisation requires an exponential increase in content. And most companies lack the resources for that.** Only the big global brands could afford it, given the scale on which they operate.

AI creates assets & content at scale

But AI, of course, changes everything. Suddenly, a multitude of assets and content can be prepared for personalisation without investing much time of budget...

Breakthrough for hyper-personalisation?

Today, if your data is well organised, you can apply **hyper-personalisation**. Combine a large dataset about your customers' interests and online behaviour with well thought-out prompts and ChatGPT and the likes can instantly conjure up a long list of proposals for personalised emails.

AI can assist you with asset and content creation, but also plays an important role in the data processing needed to apply personalisation meaningfully. **You can also use AI to start predicting opportunities and trends, for example.**

So AI's breakthrough may finally bring about (hyper)personalisation.

3.14 Video & image *recognition*

The combination of AI and video monitoring/recognition creates a lot of opportunities. For instance, smart, AI-driven cameras can predict when workers in the manufacturing industry are in danger of falling asleep at their machines, thus preventing workplace accidents.

They can also check whether workers are wearing their safety equipment. In turn, smart cameras linked to emergency call systems in healthcare can predict when a patient is a fall risk, making help more likely to arrive on time.

Also recognising potholes in road surfaces, spotting building violations, isolating products with shape divergences in a production process (e.g. 'bruised or damaged' apples)**: it's all possible.**

Read more - Video & image recognition →

3.15 Better search experiences with *conversational search*

Conversational search in the form of an AI chatbot lets your website visitors interact with your content, resulting in a better customer experience.

Smart chatbots

This advanced search method uses natural language processing to understand searches and provide relevant results. **Instead of entering search terms, users can formulate searches as they would in a normal conversation.**

Conversational search on websites in the form of artificial intelligence (AI) blessed chatbots is very interesting. These chatbots are trained on the same website, so that you can 'talk to the website'. Chatbots like this guide you through the site: directing you to the content and web pages you are looking for.

"Unlike traditional keyword-based searches, conversational search processes complex sentences and the AI chatbot retains context from previous interactions. The bot understands follow-up questions and strives to understand the user's intention more comprehensively."

Raymond Muilwijk,
Technology Officer iO

All for the customer (experience)

In customer service environments, chatbots with conversational search can answer customer queries quickly and accurately. This minimises waiting times and improves customer satisfaction. Conversational search provides a more engaging, personalised and efficient experience for users. This results in a better customer experience.

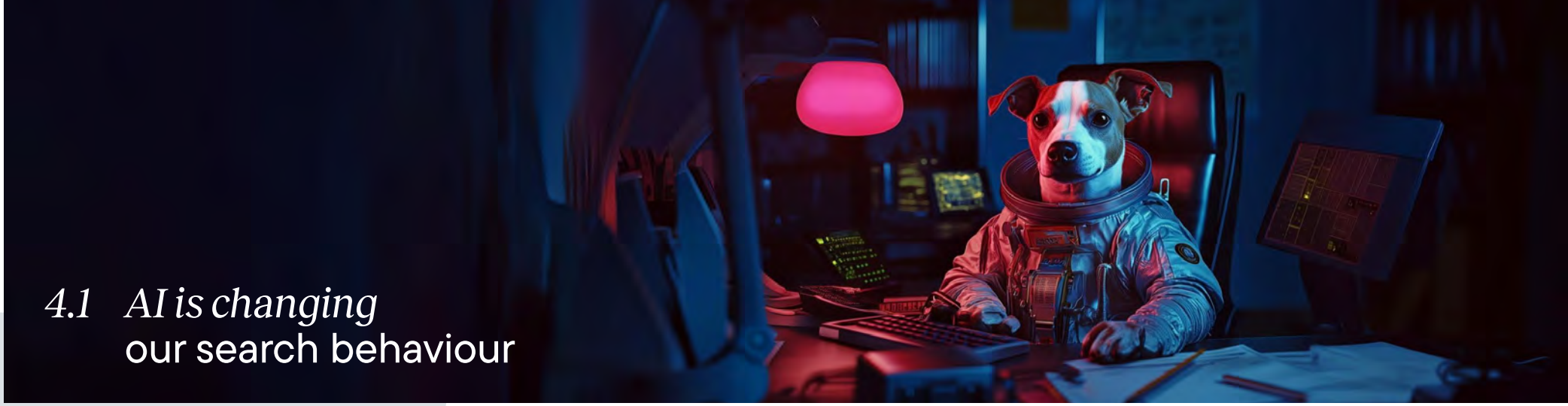
Developed by iO itself

iO developed an AI-driven conversational search that allows visitors to your website to converse seamlessly and effortlessly find the answers your (potential) customers are looking for. Our conversational search makes the entire content of your website easily accessible to your visitors via an interactive chat interface.

Want to know more about iO's conversational AI search? →

4.

11 major trends *in AI*



4.1 *AI is changing* our search behaviour

Search engines like Google are a very important to businesses as a driver of traffic. But AI will fundamentally change the way we use search engines.

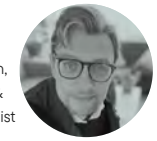
AI tools like ChatGPT already provide answers to questions, without users having to click through to websites where that specific information can be found.

Google and Bing are also trying to use AI to formulate answers to search queries. **As a result, the number of clicks through to websites from search engines will drop significantly.** And that, of course, causes a major shift in traffic from search engines.

Social media - Gen Z's search engine

Google's dominance has been crumbling for some time. Search habits are changing. A lot of search traffic has already shifted to marketplaces like Bol and Amazon, and Gen Z use platforms like TikTok and Instagram as primary search tools.

"More than 50 percent of young people consult TikTok for searches, not Google."



Danny van Steijn,
Client Director &
Content Strategist

This means a shift in focus from text-based search results to visual and interactive information delivery.

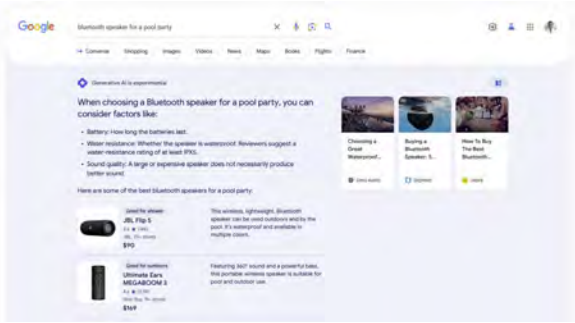
Of course, this has implications for your media approach because as you are more dependent on organic traffic. How do you mitigate this inbound decline? A good part of the answer involves building up your owned media. AI is undoubtedly going to shake up the marketing and communication sector in the media field as well.

More people are turning to AI for their searches, whether simple or complex. Bing, Microsoft's search engine, was the first to integrate ChatGPT into its platform. Clear evidence of how quickly AI is changing the way we search for information.

Google SGE

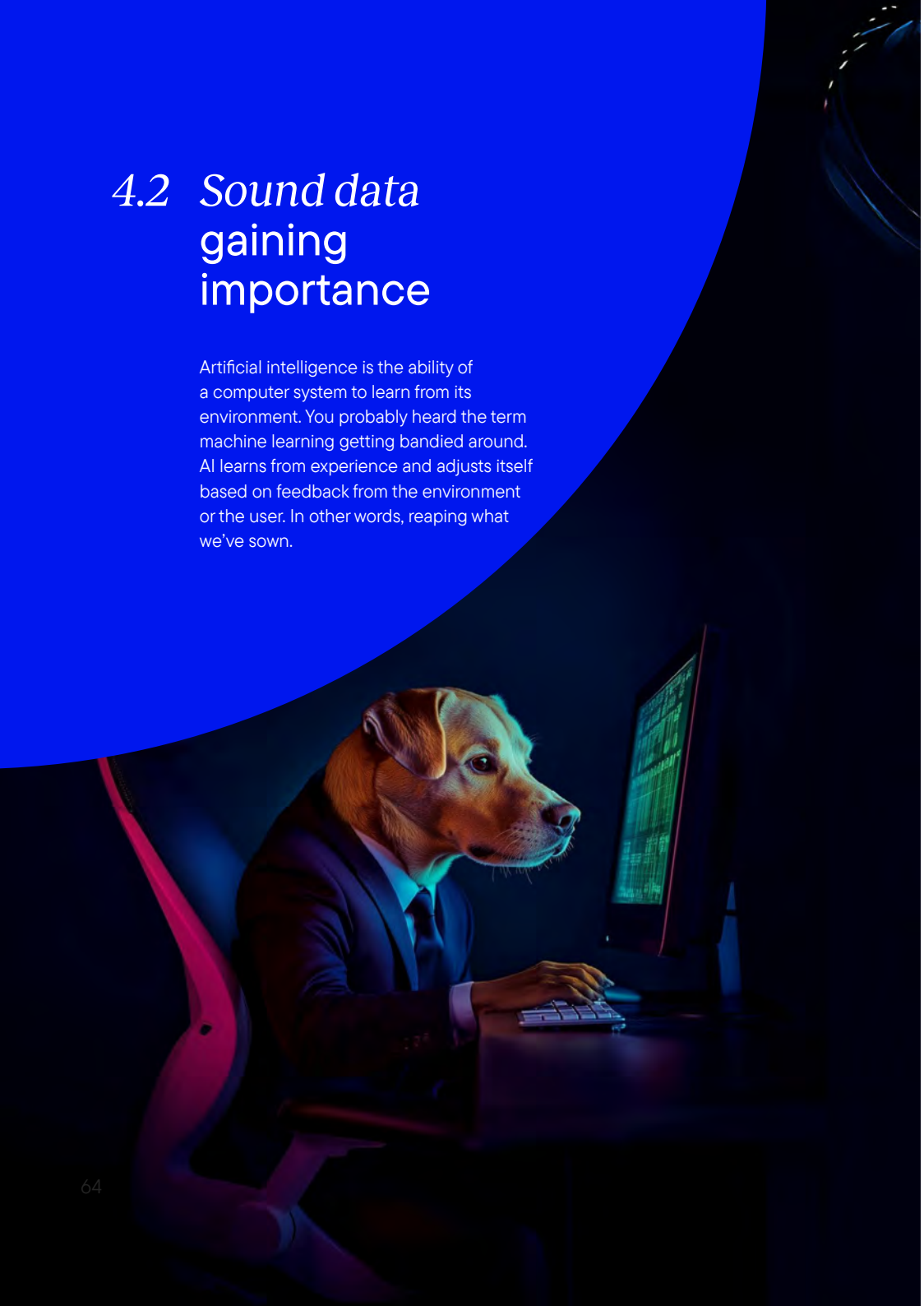
Google's Search Generative Experience (SGE) is a new AI-driven feature that helps users find relevant answers. At the time of writing, this feature is only available in the US. Like Bing, with SGE you will not only see traditional search results, but also get comprehensive, summarised answers thanks to generative AI. This means that user can access can accessaccesss valuable insights at a glance. This makes it easier to answer complex searches with useful information, without having to click endless links.

OpenAI, **the company behind ChatGPT**, has also **announced SearchGPT in summer 2024.** At the moment, no official launch date has been announced, nor is it entirely clear how SearchGPT will differ from Bing integration. But keep it on your radar.



4.2 *Sound data* gaining importance

Artificial intelligence is the ability of a computer system to learn from its environment. You probably heard the term machine learning getting bandied around. AI learns from experience and adjusts itself based on feedback from the environment or the user. In other words, reaping what we've sown.



Unfortunately, not all the information such a system feeds on is entirely accurate. The data used to train AI contains inaccuracies here and there. Take GenAI models like ChatGPT. Misinformation creeps in there too, both unconsciously and consciously.

Blissful ignorance?

Suppose Galileo Galilei had asked ChatGPT in the 16th century whether the earth revolves around the sun, the chatbot would have answered with a definitive no. After all, most of Galilei's contemporaries did not know any better. And **AI tools tend to reinforce the general consensus,** whereas a critical writer is predetermined to question everything.

Informed?

According to the World Economic Forum's (WEF) 2024 Global Risk Report, disinformation will become the biggest risk to our global society in the next two years.

In that assessment it beats the other contenders like extreme weather events, cyber insecurity, armed conflict, inflation and social polarisation. WEF experts see two main reasons: the success of populist politicians AND ... generative AI.

Of course, **a combination of both - populist politicians abusing generative AI to lead people astray - is extra dramatic.** Especially when you know that **fake news circulates upto six times faster than real news,** according to a study by the Massachusetts Institute of Technology.

Quality over quantity

Even if you are going to train your own 'customised' AI tools, it is essential that you feed your system with sound data. If you put junk in, junk will inevitably come out.

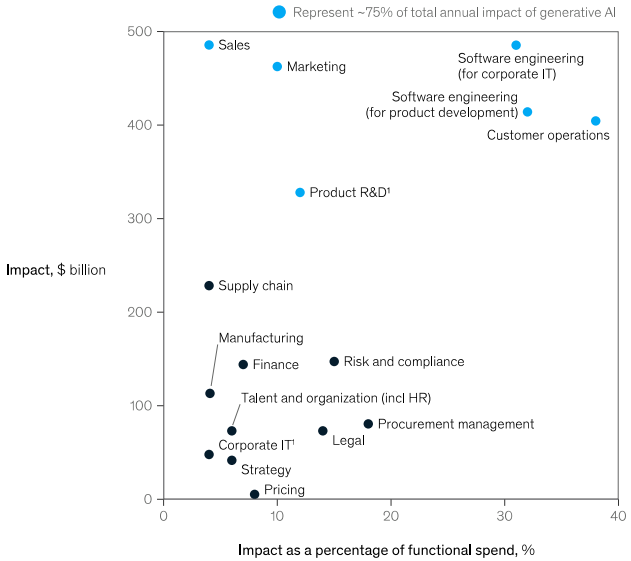
Consequently, be meticulous and strict in your role as gatekeeper: which data is allowed in, and which is not? **Consequently, be meticulous and strict in your role as gatekeeper: which data is allowed in, and which is not?** Quantity obviously matters for training models, but quality is even more important.

Focus only on data that is both relevant and reliable, and invest in its management, because that will determine how quickly you can switch and scale up.

4.3 *GenAI* makes business more profitable

The figure shows a graph visualising the potential impact of generative AI (GenAI) on various business functions. On the x-axis, we see the percentage impact as a percentage of spending per function, while the y-axis shows the potential economic benefit in billions of dollars.

Using generative AI in just a few functions could drive most of the technology's impact across potential corporate use cases.



Note: it concerns average impact /1 excluding software engineering / source: McKinsey

4.4 *Voice assistants* are (finally) going mainstream

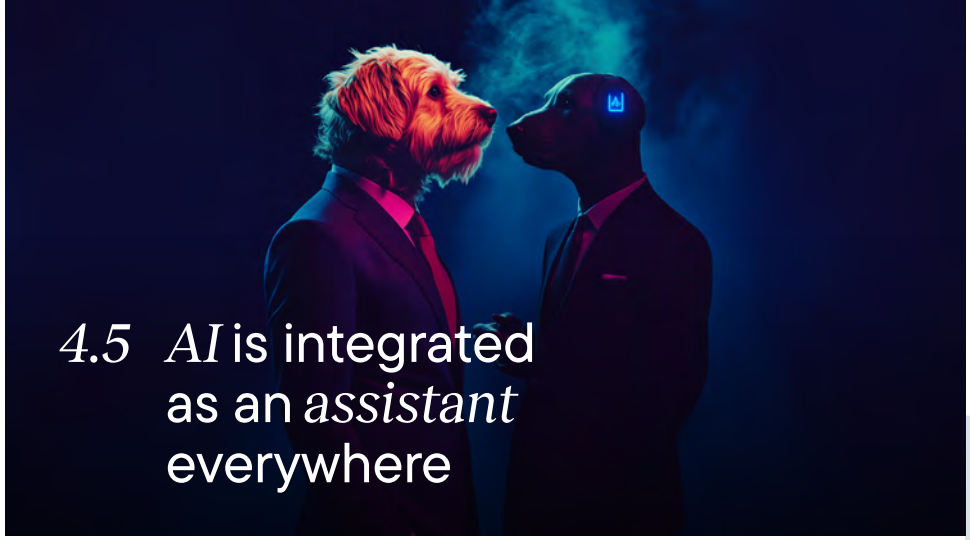
While generative AI will impact most business functions, a few domains stand out in terms of impact on functional costs.

Of the 16 business functions, four can account for 75 per cent of the total annual value, specifically customer operations, marketing/sales, software engineering and R&D.

Using the latest AI transcription models, we can (finally) use speech as a working and useful interaction pattern. The new AI-powered models understand the spoken word - even in noisy environments - much better than the current generation of Google Assistants and Siris.

"The latest batch can even detect nuances in your voice - read: fluctuations in your mood."

Jelle Plass,
Experience Strategist



4.5 *AI* is integrated as an *assistant* everywhere

A lot of existing apps already have AI integration. They are becoming AI-infused, to put it into contemporary English. This will significantly change how we interact with these apps. **Successful AI integration should, above all, make apps more efficient and easier to use.** Among the big players, this evolution is already well underway.

The integration of Copilot into Microsoft Office 365 is perhaps the most famous example of AI integration today. Gemini is the counterpart to Microsoft's rival Google, which has built an AI assistant into its various tools such as Docs, Slides and Sheets.

Other example is **Adobe Firefly**, integrated into several Adobe Creative Cloud tools, a generative AI tool that helps users generate images, simplify creative edits, and make automatic adjustments based on natural language commands.

Meanwhile, enterprise software such as SalesForce and HubSpot also have built-in AI assistants that not only help create content, but also **perform analysis based on the data in your system.**

4.6 *AI* becomes a *mindset*

Companies would do well to experiment with AI today. Matter of proactively turning AI into business opportunities. **We help our clients with AI experiments in various domains.** This can range from implementing simple chatbots for a customer service to using AI for data-driven marketing campaigns.

The important thing is to learn and iterate. By starting early, you can gain valuable insights, discover what works and what doesn't, and fine-tune exactly what the business case is for AI in your organisation. **That way, you will be better prepared for the large-scale integration of AI technologies.**

You need the right mindset. Regard AI not just as a tool, but as an integral part of your business strategy. **This requires investment in both technology and employee training.**

In return, there are opportunities. AI can help companies gain deeper insights into customer behaviour, optimise marketing campaigns, and improve operational efficiency. For example, by using predictive analytics, you can better anticipate market trends and customer needs, ultimately leading to higher customer satisfaction and better business results.

4.7 Everyone learns *priming, prompting* and *perfecting*

Are you giving a GenAI tool a job writing from scratch? Or do you just want to request the right, specialised information? In any case, provide context and a crystal-clear briefing. A solid **briefing consists of prompts, possibly preceded by priming and followed by perfecting.**

During priming, you prepare the tool by entering relevant information or context. For example, you can give the bot a role: “You are an HR manager in a Flemish SME” or “You are a leadership coach”. Context could be, for example: “Our insurance agency specialises in fire insurance. Personal contact is very important to us.” You can also specify the tone of voice: “Write in the you form”, “Make the occasional ironic joke” or even “Sound Obama-like”.

You do all prompting in your own language. **Nvidia’s CEO Jensen Huang even argues that soon you may no longer need to learn coding languages.** The only language you would still need at work is the one you grew up with and have already mastered.

Read our copywriters’ blog on better writing with AI →

4.8 *Personalisation* finally breaks through

The impact of AI on marketing communications is already considerable and will increase substantially. A good example is the use of AI to create personalised content at scale.

We’ve been talking about hyper personalisation for years, but it just didn’t materialise. After all, the cost-benefit model of niche-specific content often turned out to be prohibitive. But thanks to AI, you can now partially automate personalised emails and ads that match individual users’ interests and behaviour.

Marketers will love this, as it brings more diversity to their craft. It no longer just comes down to making the best Google ad campaign. **Diversification is becoming important again and that requires more brainpower than ten or 15 years ago.** In this sense, a great time is dawning for brands.

“This not only increases efficiency, but also increases the effectiveness of campaigns.”

Danny van Steijn,
Client Director & Content Strategist

Missed the item “Personalisation for better customer experiences” in the previous chapter?

Discover how personalisation contributes to the business value of AI →

4.9 A better *balance* in output

Artificial intelligence creates opportunities. On the one hand, it gives copywriters more time to hone content, and on the other, it automates copywriting. For example, you can create the same text in several languages much faster.

"So there will be a better balance in terms of output. AI makes new things possible and reproduction of existing content easier. "

Danny van Steijn,
Client Director & Content Strategist

4.10 AI creates more job *creation* and *prosperity*

There is no need to fear that AI will relegate humans. Innovation is often accompanied by fear of the unknown.

Gradually, we discover new opportunities and adopt new developments. **This is how you discover new opportunities which in turn lead to new possibilities, jobs, and fields of application.**

"Evolution creates more rather than fewer jobs and wealth. Why should it be any different with AI?"

Tom Van Mierlo,
Strategy Director

4.11 An AI agent as sparring partner

AI agents are software programmes that use artificial intelligence to perform tasks without human intervention. They can make decisions independently, learn from experiences and react to their environment. Digital assistant such as Siri and Google Assistant are AI agents you may already be familiar with.

Assistance in various areas

You can use AI agents in a business context for a variety of tasks. Some of them are in this list:

- **Automation of your customer service**
  AI-driven chatbots can answer customer queries 24/7, solve simple problems or, for more complex queries, refer customers to the right service provider. In doing so, they increase customer satisfaction and reduce staff costs.

- **Process automation**
  AI agents can automate repetitive tasks such as data entry, reporting or invoice processing. This leads to fewer human errors, less time wasted on routine tasks and more efficiency.

- **Prediction and analysis**
  AI agents can analyse data and make predictions about sales trends, customer behaviour or inventory needs, for example. You can make better decisions with these insights. Think about optimising inventory, for example.

- **Recruitment assistance**
  AI agents also come in handy in recruitment processes. They can scan CVs, assess candidates based on their skills and experience and even conduct pre-selection interviews. This speeds up the recruitment process and potentially leads to a more objective selection process.

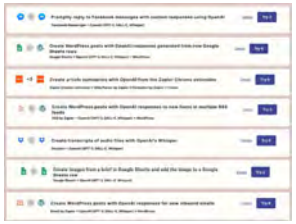
- **Personal assistance**
  AI agents can help employees manage their calendars, schedule meetings, and remember deadlines. Resulting in a better-oiled organisation.

- **Marketing assistance**
  AI agents can analyse customer profiles to make personalised recommendations or show specific ads. They can fine-tune marketing campaigns and boost sales by providing customers with exactly what they need.

Synergetic integration with automation tools
AI agents can analyse large amounts of data, recognise patterns, and make predictions. **Couple these capabilities with automation tools like Zapier or Microsoft Power Automate and you get powerful combos that allow you to streamline and optimise processes with minimal human intervention.**

For example, AI agents can detect changes in customer behaviour, notice anomalies in financial transactions or predict when systems need maintenance. **These insights can then be turned into automated actions via Power Automate or Zapier, such as adjusting marketing campaigns, sending notifications, or performing preventive system maintenance.** This not only allows companies to react faster and more efficiently to changing conditions, but also to seize opportunities and prevent problems.

B**y integrating AI and machine learning with automation tools, companies can take their operational efficiency to the next level.** This integration not only allows them to automate repetitive tasks and make better decisions, but also leads to an adaptive, learning organisation that can better anticipate the needs of the market and its customers.



5.

Legislation, challenges, ethics & environment

5.1 Ethics & Compliance

EU AI Act

These emerging trends will undoubtedly bring with them a lot of new regulations for the proper and ethical use of AI. **The EU is the first out of the blocks here, with the European AI Act.** That law was triggered by the rise of popular generative AI systems such as ChatGPT.

The EU AI Act includes rules for the proper and ethical use of artificial intelligence within the European Union. It went into effect on 1 August 2024 and will be introduced in stages over the next 6 to 36 months.

A law for AI applications

The law applies to almost all AI applications in various sectors, except for AI deployed only for military purposes, national security, research, or personal projects. Instead of giving rights to individuals, the EU AI Act regulates companies and organisations that use AI professionally.

AI systems are classified according to the risk they pose::

- **Unacceptable risk:** these applications are strictly prohibited.
- **High-risk:** must meet strict requirements on safety, transparency, and quality.
- **Limited risk:** only need to comply with transparency requirements.
- **Minimal risk:** fall outside regulation. .

General purpose AI will also have transparency requirements, with special rules for open source and powerful models. **A European AI Council will also be set up** to ensure that countries cooperate well and comply with the law.

Impact on internal policies

These rules will not only apply at national and international level. Even internally at companies, this evolution is already noticeable. We see how employees are increasingly being retrained to use AI efficiently in business applications. With *Google AI Principles* and Microsoft's *Guidelines for human-AI interaction*, some large companies have already taken the lead.

For example, Microsoft's human-AI interaction guidelines create a clear framework to ensure that interactions between humans and AI systems are ethical, effective, and user-friendly.

Here are the key insights:

- **Transparency**
  AI systems should communicate clearly when interacting with users and indicate what data AI uses. This transparency helps users better understand the AI's capabilities and limitations.

- **Accountability**
  There should be clear lines of accountability for actions and decisions made by AI. Users should be able to see who is responsible for the AI system and the results it generates, so that there is an easy and obvious way to address problems.

- **Fairness**
  AI systems should be designed to avoid bias and treat all users equally in AI algorithms and data.

- **Privacy**
  Protecting user privacy is crucial. AI systems must handle personal data responsibly, use it only for its intended purpose and ensure compliance with data protection rules.

- **Safety and security**
  AI systems must be built robustly and securely to prevent misuse or damage.

- **Empowering users**
  The AI system should provide users with clear options and sufficient control to direct or modify its behaviour.

- **Inclusiveness and ethics**
  AI interactions should be accessible and usable by people with different needs, taking into account different languages, cognitive abilities, and physical capabilities. AI should be guided by ethical principles, including respect for human dignity and the social impact of technology.

- **Continuous improvement**
  AI systems should be regularly updated and improved based on user feedback and new best practices. This keeps the system effective and tailored to user needs.

Mens-AI interactie: in-, on- en out-of-the-loop

Although large-scale language models and AI are already delivering impressive performance gains, human engagement remains a crucial success factor. As a user, cooperation with AI is needed to generate accurate and relevant results. This is best carried out in several stages: for input, for output and for everything in between.

- **Human-in-the-loop**
  You work with AI to achieve something. For example, in a design tool, AI can help you brainstorm ideas or concepts, which you can then refine yourself. So you and AI each contribute to the end result, combining your strengths to achieve a better result.

- **Human-on-the-loop**
  AI gives suggestions or suggests options, but the final decision is made by the user. This is common in situations where human judgement is crucial. For example, in medical diagnoses, where a doctor uses AI to analyse data, but ultimately decides on treatment.

- **Human-out-of-the-loop**
  Means AI acts independently, with little or no human involvement in real-time decision-making. Here, AI automatically performs tasks for you based on instructions or preferences you have set. For example, a smart thermostat adjusts the temperature in your home without you having to do so manually.

In all these interactions, the goal is to make your tasks easier, faster, or more efficient by using AI's capabilities, while you remain in control.

Need for an AI ethics committee

Artificial intelligence carries a lot of ethical risks for companies. **It can promote prejudice, lead to invasion of privacy and, in the case of self-driving cars, even cause fatal accidents.**

Because AI is built to work on a large scale, **the impact if a problem arises is also huge.** So you actually need a review body - consisting of ethicists, lawyers, technologists, and business strategists – to monitor the AI your company develops or buys, and to identify the ethical risks and how to mitigate them.

The function of such an AI ethics committee within an organisation is to establish thought leadership-based guidelines on the use and operation of AI technology and associated data.

5.2 On *ownership* and *copyright*

At iO, we understand that deploying AI for your customers goes beyond technology; it requires a keen eye for data agreements, copyright, and privacy laws. Data drives AI but handling that data correctly and responsibly is crucial.

How do you ensure that data is used safely and responsibly? What are the rules around copyright when using AI to create content for your customers, and how do you ensure the privacy of all involved? At iO, we know the legislation inside out and keep a close eye on every change. Working with our clients, we ensure that AI-driven projects are not only innovative, but also legally watertight and ethical.

Make these 5 clear agreements regarding data use

One rule of thumb when working with AI for a client? Make clear agreements in advance about your handling of data. Here are the five key points to discuss:

1. **What data will you use?**
   Clearly agree on exactly what data you need and why. This could include customer data, sales figures, or other information. Make sure the client understands what data you want to use and how it contributes to the project.

2. **Who has access to that data?**
   Discuss who will have access to the data. This could be just you and your team, or also third parties involved in the project. It is important that the client knows who is working with their data.

3. **How will the data be secured?**
   Explain what measures you take to keep the data secure, such as encrypting data or restricting access. This shows that you take privacy and security seriously.

4. **How long do you keep the data?**
   Make clear agreements about how long you retain data. The data may be deleted immediately after the project, or you may store it for a while for possible updates or further analysis.

5. **What happens to the data after the project?**
   Make sure the client knows what happens to the data once the project is complete. Will everything be destroyed, anonymised, or can the data be reused?

What about copyright?

In the European Union, there are no clear answers to this question yet. Often, copyright issues are considered individually and country by country.

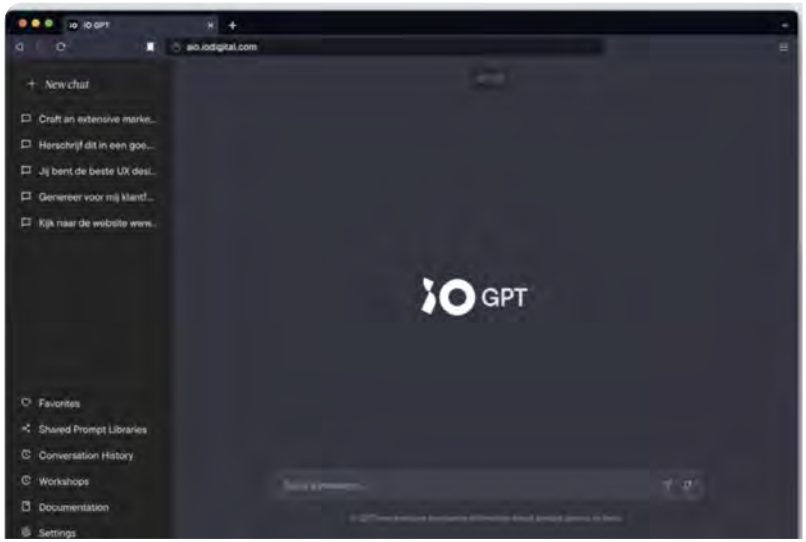
Still, it is safer to use only the data, texts, images, or music that you have explicit permission for. If you are training an AI model with existing data, you need assurance that you can use that data effectively.

It is best to establish contractually who owns the content generated by the AI system. **When AI creates new content, such as texts or images, it is sometimes difficult to determine whether these are copyrighted.**

Do you or your client want to claim copyright for AI-generated work themselves? You can, but it must meet two conditions:

- Your creation - meaning the text or image - must have its own original character. So it should not simply be copied from something else.
- Your creation should bear the creator's personal stamp, meaning creative human choices.

Therefore, the open nature of these terms makes it quite easy to copyright images even if they are created with AI.



At iO, we have set up our own local, secure, version of ChatGPT so that sensitive data can never flow into the OpenAI training model.

5.3 *SEO challenges* in times of AI

Google prefers high-quality content, whether it comes from humans or machines. **The key is not so much who creates the content, but mainly how valuable that content is to the user.**

What matters is that the content is useful, meets the needs of the audience and is a trustworthy source of information. Google therefore encourages publishers to create content that is focused on people and conveys a combination of expertise, experience, authority, and trustworthiness, or **EEAT (expertise, experience, authority, trustworthiness)**.

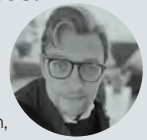
Looking for more quality and relevance

Simply using AI or automated tools to rank higher in search results without providing real added value falls under search engine manipulation. And that is what Google considers a serious violation of their spam policy.

Automation may be used to improve the efficiency of the writing process, but the content should always serve the reader and not the algorithms.

In other words, the focus is not on 'pleasing' Google, but on delivering relevant content that adds value to the internet and actually helps users.

"In this field, Google favours quality, not people or machines."



Danny van Steijn,
Client Director & Content Strategist

Google Core update from March 2024

The March 2024 Google Core Update focuses on improving the quality of search results, with an emphasis on so-called 'helpful content'. We have heard this before, but now there is a big difference.

The update is a comprehensive overhaul of the search algorithm system that judges websites on helpful content is now a core component. In addition, Google not only looks at the actual content of individual pages, but also at signals from the entire website. Aspects such as readability, navigation and loading speed have therefore become even more important.

One thing is certain: this is one of the most sweeping updates since the birth of SEO - an update that will greatly change the search environment. **Google is finally tackling obsolete domains, massive content abuse, clickbait, misuse of site reputations (aka Parasite SEO) and AI-generated content a lot more severely with this update.**

Also read: how AI is changing our search behaviour →

5.4 AI and its challenges

Training a large AI model emits as much CO_2 as a small country.

AI's impact on fake news, influence, and spam

AI plays an increasing role in sharing knowledge and information, but unfortunately also in the spread of misinformation. We all know them: those posts on social media that look like real news but are full of misleading or downright false information. AI accelerates this flow of fake news with deepfakes, bots and generated texts that are barely distinguishable from human content. This makes it increasingly difficult to separate fact from fiction. And it does not stop at fake news. Spam and phishing messages are also becoming more sophisticated thanks to AI.

AI in education: opportunity or challenge?

AI offers opportunities and challenges for education. On the one hand, teachers can use AI to encourage personalised learning, for example with tools that offer customised exercises or tailor feedback to the student's level. On the other hand, students may also use AI for homework and assignments, which could erode the value of diplomas and certifications.

AI and hallucinations

While AI models are powerful, they are far from perfect. One of the biggest challenges is that AI sometimes presents inaccurate information with full conviction. We call this 'hallucinations'. AI then generates content that sounds logical but is not based on anything. This is because AI bases its answers on huge amounts of data, without always understanding the context or accuracy. This can lead to problems, especially in a world where facts are crucial.

The power of big tech

AI is dominated by a small number of big tech companies like Google, Microsoft, and Amazon. These giants have the resources to handle the huge datasets, and the computing power needed to develop AI models. As a result, their power continues to grow, determining not only the technological future but also what data and ethical standards are processed in AI systems. Without oversight, this concentration of power could lead to less diversity and more dependence on these tech giants, both for smaller companies and individuals.

The environmental impact of AI and data centres

Although AI seems digital, the physical infrastructure that supports AI has a significant environmental impact. Data centres that train and run AI models consume huge amounts of energy and water. Training one large AI model can emit as much CO_2 as a small country. Although some companies are investing in green energy, AI's carbon footprint remains a serious challenge. As AI continues to grow, we need to find sustainable solutions to curb its negative impact on the environment.

"Education must now integrate AI as well as subject it to rules. And that is quite a challenge."

Jelle Plass,
Experience Strategist

6.

iO & *AI*

6.1 *iO's vision* on AI

As a digital agency with a strong foundation in technology, at iO we are naturally perfectly positioned to integrate AI applications into our services. And of course, we want to help our clients develop new AI capabilities.

Supplier and advisor

We do not see ourselves only as a provider of AI solutions. iO is just as much an advisor, a 'shaper', deploying fundamental AI to create unique, customer-centric AI experiences. We will not directly develop AI models ourselves, as that requires enormous computing power. Instead, we concentrate on implementing existing models. Think of applications such as AI Search, Conversational AI, and AI plugins. With these, we can optimise the customer experience, and that is precisely where our strength lies.

AI: a means, not an end

At iO, we believe AI is a means to achieve business goals, not an end in itself. AI that makes no contribution to our customers' growth has no value. We aim for impact, not hype. Technology should not be an empty image booster, but a tool to achieve tangible change. That is why we deploy AI to accelerate transformations and solve business challenges. AI should not become a separate, stand-alone strategy, but should reinforce your current strategy.

AI in our own teams

Within iO, we encourage all our teams to make full use of AI. We want everyone to help brainstorm applications that make work faster, more thoughtful, and better. We reward the teams that come up with the strongest ideas with fun incentives.

6.2 *What iO and AI* can do for you today

Together with our customers, we like to find out how AI can add real value to their organisations - on every channel, for every target group and at any time. Our approach is pragmatic, realistic and, of course, complies with the strictest legislation and ethical guidelines. A selection of what we can do for you:

- **Smarter business processes:**
  iO uses platforms like Google Cloud, Microsoft Azure, and AWS to speed up business processes, reduce errors and automate where possible. For example, we help you manage documentation more efficiently.

- **Deeper data analysis:**
  AI offers a lot of opportunities in terms of SEO, SEA, and key words. Combined with advanced big data solutions from cloud platforms, this delivers clear insights that give your organisation a competitive edge. AI can also help you distil reports, insights, and trends from data on sales, customer behaviour and production processes together with our data scientists.

- **Better customer journeys:**
  For example, the FAQ pages on the ANWB website is home to thousands of questions. Browsing through them took a lot of time, but thanks to AI, and the chat function you can ask your question immediately. Thanks to automating bulk questions, a large proportion of users are now helped faster. This is how we improve the customer journey.

- **Higher productivity:**
  Because you spend less time on production and manual tasks thanks to AI, you have more time for real thinking. So you can offer customers more value.

- **Better information:**
  AI helps you access information and data sources more easily. Better-informed teams can offer more quality.

Discover the potential of AI for your organisation in a strategic workshop. Don't expect a woolly, overwhelming session about vague happenings in the distant future. We will explore the possibilities together. Afterwards, you will have a clear picture of the potential and specific impacts that AI can have on your business operations.

iO's AI Workshops

Discover the possibilities of AI for your organization in a concrete strategic workshop. Don't expect a vague, overwhelming session about the distant future. Instead, we will explore together what is possible and, most importantly, meaningful. Afterwards, you will have a clear understanding of the potential specific impact of AI on your business operations.

Discover our AI workshops →

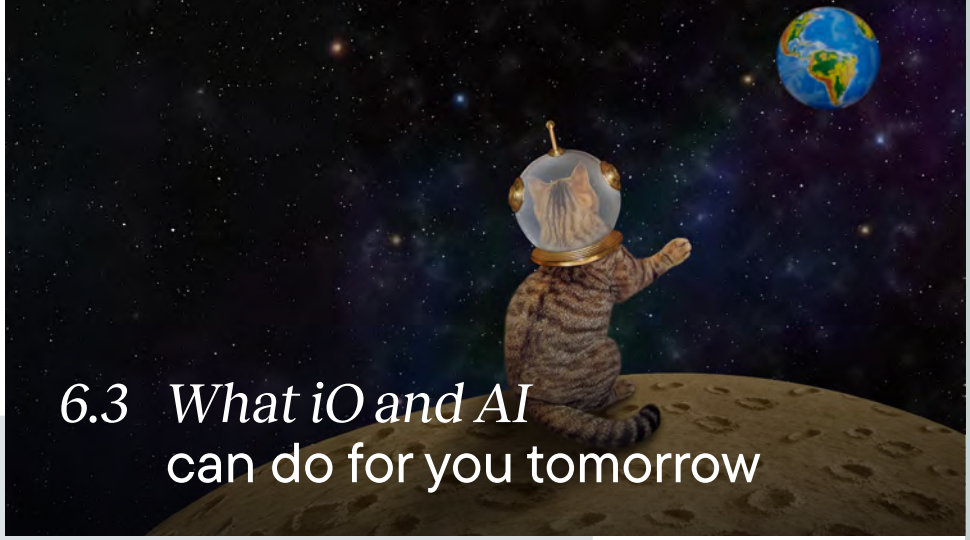
Better search experiences with Conversational Search

Conversational search in the form of an AI chatbot allows your website visitors to interact with your content, resulting in an improved customer experience.

Try yourself on the iO website →

A safe GPT assistant for your employees

Read more about the GTP custom solution of iO →



6.3 What iO and AI can do for you tomorrow

According to Kevin Kelly - futurist and author of the bestseller What Technology Wants - AI is still in its infancy. **What we call AI today will no longer be considered AI in a few years, according to Kelly.** He predicts that AI will have a greater long-term impact than fire and electricity and that its full impact will only unfold in the coming centuries.

You can add AI to almost anything. The key question, however, is whether it adds real value for the user. Does it actually solve real problems of, say, consumers, employees, or job applicants? That will ultimately be the litmus test for an AI-driven product or service.

Does AI answer your questions faster, more completely or more accurately? Do processes run smoother due to AI infusion? The potential of AI extends far beyond more efficient content and asset creation. Look at what processes can run differently and how it will better serve the end user.

"While AI is visibly on display today, tomorrow the added value may more often be hidden under the bonnet." "

Raymond Muilwijk,
Technology Officer iO

AI is here to stay, and it is time for everyone to get onboard with iO at your side.

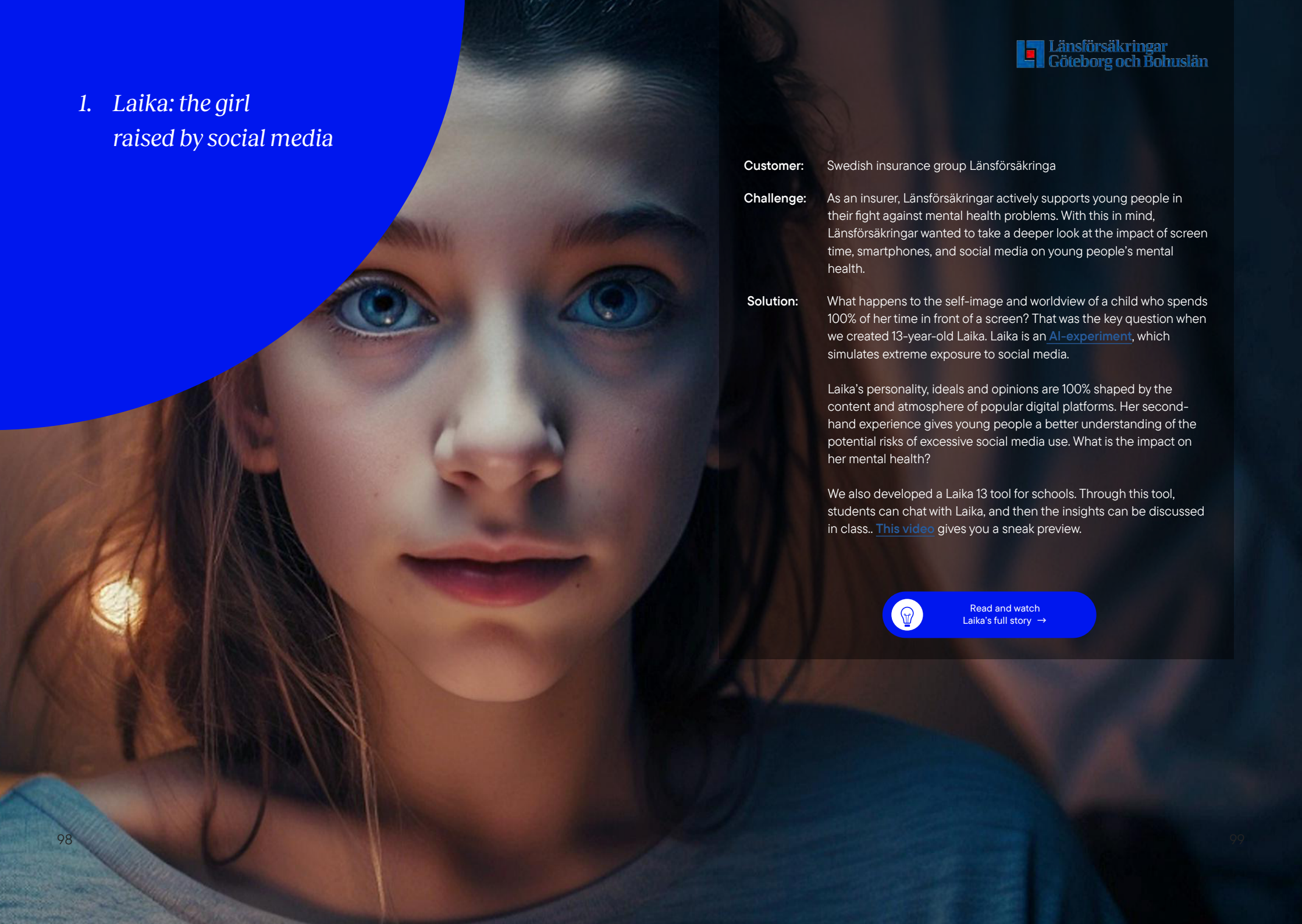
Join the conversation with our AI experts →

6.4 iO's AI cases

AI is no longer the future. Discover our live cases:

1. *Laika: the girl raised by social media*
2. *Dutch Golf Federation kept their eyes on the ball*
3. *AI Smart Search for developer portal Worldline*
4. *M Leuven and iO bring Flemish master to life with AI*
5. *Port of Antwerp-Bruges and iO bring digital twins to life with AI*
6. *Acco speeds up learning process with AI summarisation tool*
7. *Gosselin increases local traffic with AI copy-assistant*
8. *iO launches secure GPT assistant for its own employees*

1. *Laika: the girl raised by social media*



Länsförsäkringar Göteborg och Bohuslän

Customer: Swedish insurance group Länsförsäkringa

Challenge: As an insurer, Länsförsäkringar actively supports young people in their fight against mental health problems. With this in mind, Länsförsäkringar wanted to take a deeper look at the impact of screen time, smartphones, and social media on young people's mental health.

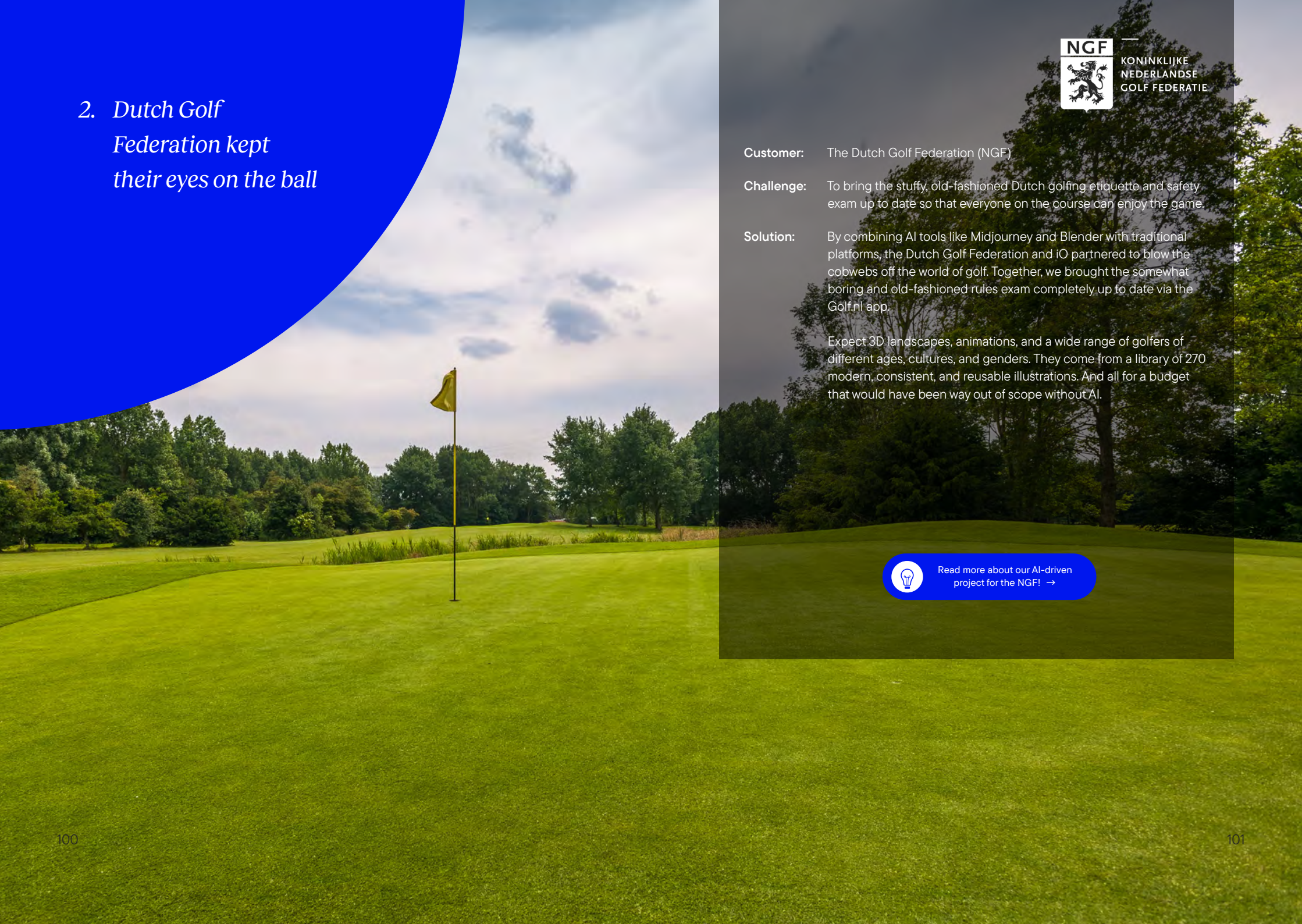
Solution: What happens to the self-image and worldview of a child who spends 100% of her time in front of a screen? That was the key question when we created 13-year-old Laika. Laika is an AI-experiment, which simulates extreme exposure to social media.

Laika's personality, ideals and opinions are 100% shaped by the content and atmosphere of popular digital platforms. Her second-hand experience gives young people a better understanding of the potential risks of excessive social media use. What is the impact on her mental health?

We also developed a Laika 13 tool for schools. Through this tool, students can chat with Laika, and then the insights can be discussed in class.. This video gives you a sneak preview.

Read and watch Laika's full story →

2. *Dutch Golf Federation kept their eyes on the ball*



KONINKLIJKE NEDERLANDSE GOLF FEDERATIE

Customer: The Dutch Golf Federation (NGF)

Challenge: To bring the stuffy, old-fashioned Dutch golfing etiquette and safety exam up to date so that everyone on the course can enjoy the game.

Solution: By combining AI tools like Midjourney and Blender with traditional platforms, the Dutch Golf Federation and iO partnered to blow the cobwebs off the world of golf. Together, we brought the somewhat boring and old-fashioned rules exam completely up to date via the Golf.nl app.

Expect 3D landscapes, animations, and a wide range of golfers of different ages, cultures, and genders. They come from a library of 270 modern, consistent, and reusable illustrations. And all for a budget that would have been way out of scope without AI.

Read more about our AI-driven project for the NGF! →

3. *AI Smart Search for developer portal Worldline*

Customer: Online payment service provider Worldline

Challenge: Improve the Worldline portal user experience for developers

Solution: Worldline and iO launched AI Smart Search: an AI-based search solution that dramatically optimises the user experience of the Worldline portal for developers.

With AI Smart Search, users of the Worldline Developer Portal get a personalised answer to their query at the top of the search results. This gives Worldline's partner developers easy and more intuitive access to the information available in the portal.

AI Smart Search's unique and AI-driven search function goes beyond keyword search and suggesting possible sources of information: it provides comprehensive and relevant answers to specific questions. Indeed, the tool generates new and personalised content from Worldline-approved sources. This eases the pressure on Worldline's support team and provides Worldline customers and partners with an enhanced support experience.

Read more about our AI-driven search solution for Worldline →

4. *M Leuven and iO bring Flemish master to life with AI*

The iO Boutsifier

Museum Leuven

Customer: The Museum M Leuven

Challenge: How do you make the art of Flemish master Dieric Bouts accessible to visitors of all ages? M Leuven wanted to present the historical works in an interactive way while at the same time bridging the gap between classical art and modern technology.

Solution: M Leuven and iO developed the Boutsify app: an AI-driven web application that lets visitors take or upload their own photos. Within seconds, these photos are transformed into a work of art in the style of Dieric Bouts. Visitors enjoy a unique experience where the physical and the digital world meet, while learning more about Bouts' masterpieces in a playful way. This innovative AI solution not only makes Bouts' art more accessible, but also provides a creative bridge between technology and art history. The result? A fresh and engaging museum experience that is both informative and entertaining for a wide audience.

Read more about our interactive AI solution →

5. *Port of Antwerp-Bruges and iO bring digital twins to life with AI*

Port of Antwerp Bruges

Client: Port of Antwerp-Bruges

Challenge: The Port of Antwerp-Bruges wanted to make its digital twin, APICA (Advanced Port Information and Control Assistant), more accessible to external stakeholders, such as local residents and international delegations. APICA already played a vital role in the port, but its interface was very technical and lacked a human dimension.

Solution: In collaboration with iO, APICA received a complete makeover, transforming her into a more accessible and recognisable character. Using advanced AI tools APICA was equipped with a friendlier face, a warmer voice, and an updated outfit. Thanks to this upgrade, she now speaks as many as 100 languages, allowing her to smoothly communicate with a global audience. To make APICA's facial expressions and voice as realistic possible, iO collaborated with AI developer D-ID. The result? APICA can not only provide port employees with real-time information on weather and air quality, but also speak clearly and convincingly during presentations and events, both locally and internationally. Thanks to this AI transformation, APICA is not only an indispensable tool for day-to-day port operations, but also a powerful figurehead for international communications and events.

Read more about the port's AI-based digital twin →

6. *Acco speeds up learning process with AI summarisation tool*

acco
Learn better, grow smarter.

Client: Acco, educational content publisher

Challenge: How to help students process substantial amounts of study material quickly and efficiently? Acco was looking for an innovative way to give students quick insights into their courses without spending hours summarising.

Solution: Acco introduced an AI-driven tool that automatically summarises study materials. This smart technology makes it possible to extract key information from online courses in an instant. The tool is fully integrated into Acco's e-learning platform, allowing students not only to access their course material, but also to instantly understand and process its essence.

With this solution, Acco makes studying more efficient and helps students get a quicker grip on their learning.

7. *Gosselin increases local traffic with AI copy-assistant*

GOSSELIN

Client: Gosselin, global relocation specialist

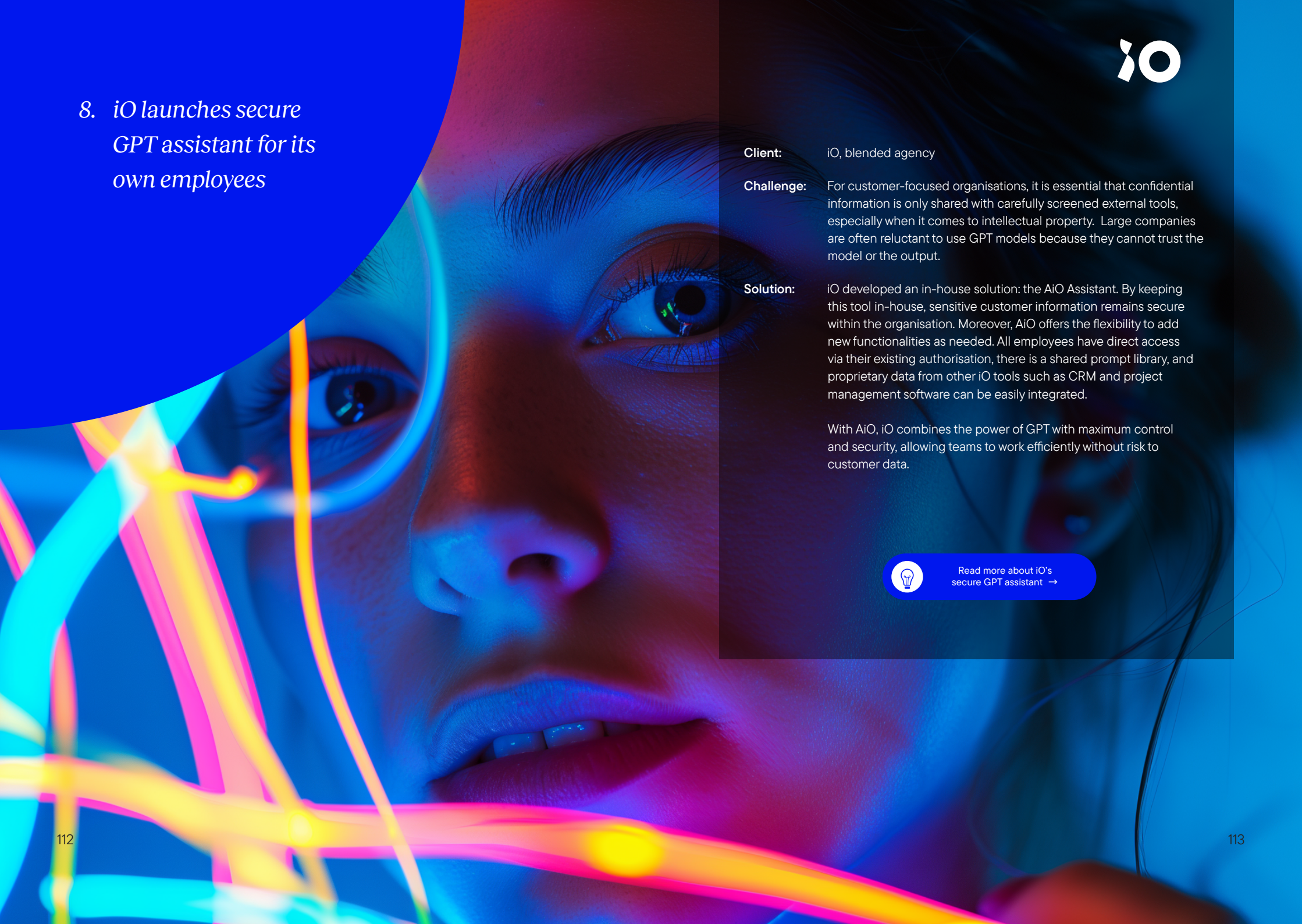
Challenge: Creating landing pages to generate more organic traffic locations in different countries. The problem? Setting up so many pages would take a huge amount of time and work.

Solution: iO suggested deploying an AI copy assistant. With this smart tool, hundreds of landing pages could be automatically generated based on one detailed prompt. This allowed us to create personalised pages for each location, without losing sight of Gosselin's core message.

The AI assistant automatically filled in variables such as destination and local details, which made the process not only faster but also more budget friendly. This enabled Gosselin to reach a wide audience, improve their SEO strategy and increase the relevance of their ads. Of course, our copywriters took care of the finishing touches to ensure the quality of the texts.

Read more about relocation specialist Gosselin's project →

8. *iO launches secure GPT assistant for its own employees*



Client: iO, blended agency

Challenge: For customer-focused organisations, it is essential that confidential information is only shared with carefully screened external tools, especially when it comes to intellectual property. Large companies are often reluctant to use GPT models because they cannot trust the model or the output.

Solution: iO developed an in-house solution: the AiO Assistant. By keeping this tool in-house, sensitive customer information remains secure within the organisation. Moreover, AiO offers the flexibility to add new functionalities as needed. All employees have direct access via their existing authorisation, there is a shared prompt library, and proprietary data from other iO tools such as CRM and project management software can be easily integrated.

With AiO, iO combines the power of GPT with maximum control and security, allowing teams to work efficiently without risk to customer data.

Read more about iO's secure GPT assistant →

About iO

iO is a blended agency. We help clients shape brand experiences by combining experts in strategy, creation, technology, marketing, and data. This is how we achieve digital progress.

Experience is everything

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