Guide

AI DESIGN WEEK

Proof-of-value of a Machine Learning model within 5 days

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Introduction

By now, it is common knowledge that the impact of AI will be tremendous and very sudden. According to research from Accenture, by 2035, labor productivity will have risen by 40% and corporate profitability by 38% due to AI alone. As such, it's no surprise that industry leaders worldwide are reinventing themselves to deflect threats and take this development's opportunities. Whether you have a well-defined data challenge or are in the process of defining your AI strategy, our team will help you discover the opportunities in your data.

In this guide

In this guide, we will inform you how to prove the value of AI with your data within just five days. We'll show you how to select the best AI idea that matches your business goals to ensure a beneficial impact. In other words, we combine technical diligence with business diligence.

Challenges

Many industries have data, but figuring out how to create value has proven incredibly hard. The approach of our AI Design Week is focused on overcoming the three most significant challenges.

1. **How do you start?**
   AI is disruptive enough that business leaders must start now if they haven't.

2. **How to succeed with AI?**
   Most projects or pilots fail because they start too large and with too complex a problem to solve.

3. **How to select the most worthwhile project to work on?**
   AI seems to have a lot of possibilities, but each case will not be the correct one for each business.

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AI Design Week

We use a 5-step plan to set up an AI Design Week. We determine the business goals to define and execute the use case for your AI experiment with this plan.

This week, you're proving the value of an AI idea and kickstarting the learning process by working with AI in your organization.

We encourage you to set up a mixed team that includes your employees and experienced AI experts from us.

01 **Impacting business goals**
An Ideation workshop to determine the impacting business goals and choose the use case for AI experiment

02 **Analysing data feasibility**
Data will be collected and check on availability, accessibility and compliance.

03 **AI Learning Modelling**
Designing the right AI model for the use case

04 **AI Experiment Solution**
Transform the data and AI model to fit the solution

05 **Evaluate**
Demonstrate the result to the key stakeholders and evaluate the outcomes and the process to improve.

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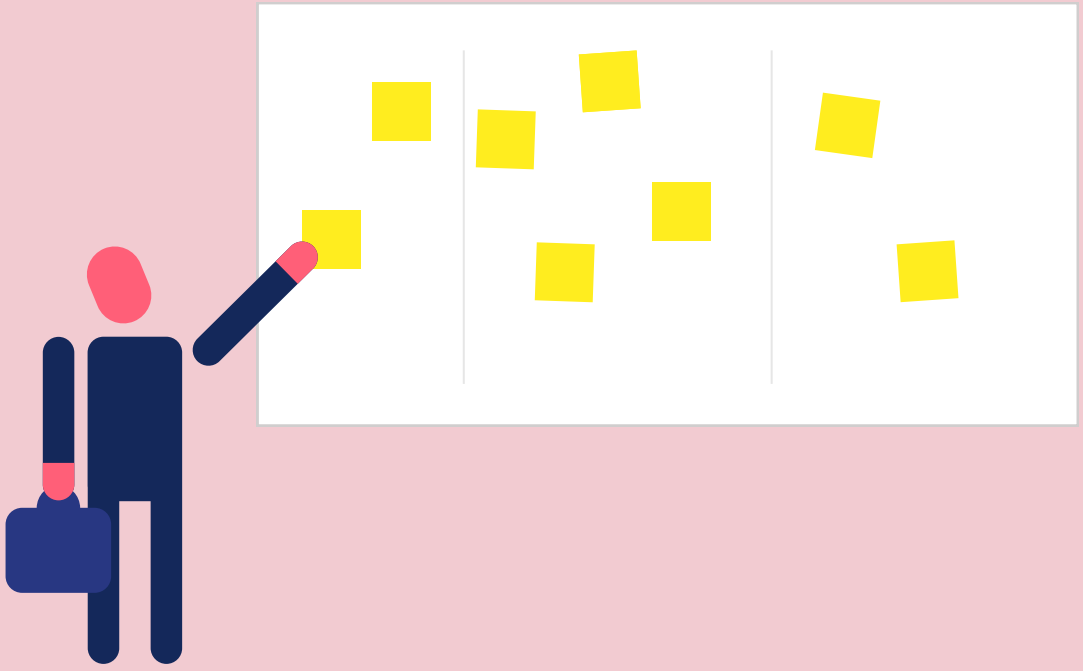
AI Ideation Workshop

The goal of the AI Design Week is to prove the value of an AI idea, but how to choose the correct one? It is crucial to select a feasible and valuable idea for the business with the current state of AI technology in mind.

To achieve this, we begin with an AI Ideation Workshop. In this workshop, we work with a diverse team of your employees. We start with a theoretical introduction to AI concepts before moving on to the collection of ideas. This interactive part gathers numerous ideas your employees have for your business. These ideas are then ranked based on their impact on your business goals, value, and feasibility.

The best-fit idea is selected as a starting point to define an experiment for the AI Design Week. We use the AI Experiment Canvas to limit and plan the experiment in detail. This way, we have a straightforward, structured approach to preparing, defining, planning, and executing the AI Design Week.



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“The value of an idea is in the using of it.“

Thomas A. Edison

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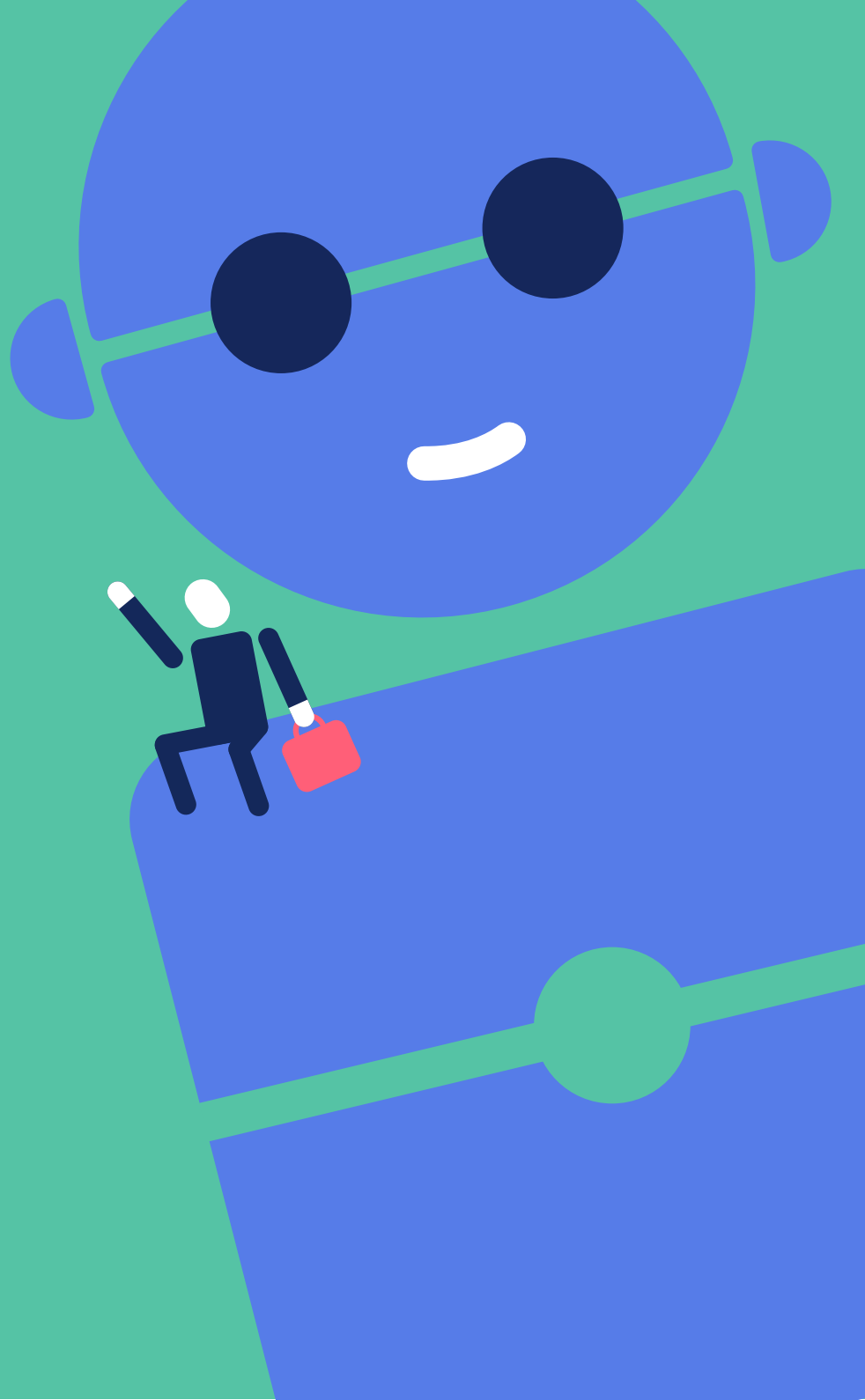
REAL-LIFE

Examples

The AI Design Week applies to all business sectors. We collected four examples of AI Design Weeks we executed for our customers.



In-depth example of an AI Ideation Workshop

How a public transportation company discovered 70 ideas for AI

A large Dutch public transportation company discovered 70 ideas for Artificial Intelligence experiments. All within a 4-hour workshop with 11 people. At the end of the workshop, they picked the best three and defined the experiments in greater detail with the AI Experiment Canvas. From thereon, they can start their AI experiments today. In this example, We'll show you how to discover and define your AI experiments.

The top priority of this company is to make their travelers' trips as pleasant and sustainable as possible. During operation, they collect a lot of data, which provides an excellent opportunity to improve their business goals
with AI.

Align experiments with business goals.
After briefly introducing AI and its use cases, we started by stating the business goals. It's crucial to align experiments with business goals to get them funded. When an investigation impacts only one or more business goals, it's easier to make it valuable.
The first exercise aimed to set the attendees' brains into creativity mode. Everyone was making associations between unrelated words. After a couple of rounds, everyone was in a creative mood. So, we jumped to the next exercise, where everyone made associations between the business goals and the use cases. These use cases consisted, among others, of computer vision, speech, and recommendations and resulted in approximately 50 ideas for AI experiments.

A good start! But to stretch the attendees, we made a list of external data sources, including the weather, social media, and football results (which could indicate an increased risk of aggression in trains). A new round of associations between goals, use cases, and these data sources resulted in 20 more ideas.

From 70 ideas to 3 experiments

Segmenting on business impact, value, and feasibility, the attendees voted for three experiments. In small teams, they defined these experiments in greater detail. We designed the AI Experiment Canvas to define, plan, execute, and evaluate AI experiments. It helps to state a learning goal and set a measurable hypothesis. By limiting the metrics to measure the idea, each team had to sharpen their hypothesis.

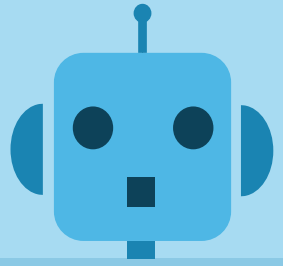
Start experimenting today

So, within 4 hours, this public transportation company discovered 70 ideas, resulting in three defined AI experiments. We aligned the experiments with the business goals with 11 attendees from different backgrounds (business, IT, and data scientists). The experiments are well-defined, so the attendees can start experimenting today.

Leaked Secret Detection in documents and corporate wikis

Companies are increasingly collaborating to launch new products, services, or innovations. For this, employees of different companies must be able to share information confidentially. Because it sometimes concerns competition or stock market-sensitive information, confidentiality is very high.

We created a platform where corporate requirements such as onboarding, and other compliance requirements are guaranteed to keep this safe and efficient. This platform is used by international central banks, among others.



Quick facts

Challenge	Warn when sensitive information, such as passwords, is shared
Target group	Administrators of the knowledge management system
Results	A smart system that detects sensitive information, making the knowledge management system more secure.

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Challenge

Because large groups of employees from different companies work together and use the collaboration platform, authorization and control are essential. Although good agreements exist, users can still accidentally share sensitive information. Because the system has many users who add or change information daily, it becomes increasingly challenging to detect sensitive information.

Solution

All user additions and changes route through a funnel of machine learning models, which checks the data for sensitivities. First, there's a coarse search for sensitive words, such as passwords, then words are examined in the context of the sentence, and at the bottom of the funnel, a classification is made based on allowed patterns. A phone number can look like a password, but it isn't.
The system reports the outcome to the administrators of the system. They will receive a notification containing a reference to the document where sensitive information is shared. The administrators make the final judgment about the sensitivity of the data.

Impact

The platform is gradually improving without any inconvenience to users. Controlling sensitive information is getting smarter and alerting administrators so they can act. It makes sharing information more secure.

All user additions and changes route through a funnel of machine learning models, which checks the data for sensitivities.

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Improved processes and traceability in the food sector

Westfort processes around 1000 tons of pork products every day. The quality requirements are among the strictest in the world. The company is always looking for new technological possibilities to manage this optimally. They used an AI Design Week to investigate and prove the opportunities offered by artificial intelligence.

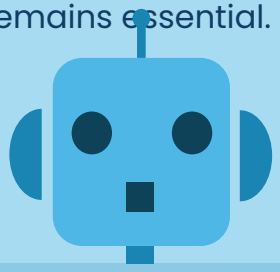
Real-time classification

Westfort classifies pigs and checks whether they are bears, sows, or gilts when processing pork products. Until recently, this classification was done only by humans.

Westfort has devised and realized a solution that uses cameras and Azure Cognitive Services to divide pigs into three variants in real time. We take a snapshot every 5.33 seconds and classify that automatically via machine learning. Westfort uses edge computing in combination with the computing power of the cloud.

Because storing the snapshots with the classification, follow-up analysis is possible, an essential step in the data maturity of Westfort.

This improvement and retraining are ongoing because environmental changes and errors may arise. These changes require you to improve the model, where human expertise remains essential.



Mixed team

Westfort has worked together in a mixed team. We included the people at Westfort at all activities that we were doing. Through this co-creation, business knowledge and expertise in the field of AI came together effectively.

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In-depth example of an AI Design Week

AI Design Week provides new insights and practical tools

"We want to do something with AI." This is a frequently heard statement within organizations lately. After all, the popularity and possibilities of AI have increased enormously in recent years, and more and more companies realize that AI offers them a lot of added value. This also applies to Logiqs, a supplier of industrial equipment for vertical farming and greenhouse horticulture, among other things, so they contacted Aigency and went through an AI Design Week together to see if AI is having a positive impact on the organization. "The insights, knowledge, and practical tools we have gained in this have made us realize that we can take major steps to implement AI successfully," says Marijn van der Zee, Chief Transparency Officer & Line manager at Logiqs.

As a supplier of industrial equipment, Logiqs must keep up with the times and know the latest trends and developments. AI's possibilities are of particular interest to the company, so it wants to get its developers excited to get started with AI. It is also interesting for them to develop an ecosystem in this area with partners and employees, both for their traditional systems (for example, logistics and greenhouse horticulture) and future projects (vertical farming). In their search for a company that can help them with this, Logiqs quickly found us—the AI Design Week appealed to them greatly.

Everything in a week

This AI Design Week is unique because our AI experts work one week with the customer's developers, in this case, Logiqs, on a pre-agreed assignment. "In this week, we devote our full attention to the assignment. A huge advantage", says Téa Stojanovic, AI business consultant at Aigency. "When you start working on a new project, new elements or issues always arise. You will eventually stray from your goal if you don't include it in your process. Focusing entirely on that one hypothesis and not having time for "deviations," we keep heading straight for our goal. We will write down new findings to deal with them later."

"The limited duration of one week made it a no-brainer for us to participate in the AI Design Week," says Marijn, who did not participate in the week but did supervise the process from Logiqs. "Today, you have to be able to quickly set up something with software and learn from it rapidly. If something like this takes several weeks, you may find that, at some point, you should have done something different in your first week. You can deal with this more flexibly by doing everything in one week. In addition, it is easier for us to schedule several employees completely off for five days to focus on this without distraction from other activities."

How is the AI Design Week going?
Before AI Design Week kicks off, Aigency's experts and customer developers meet for a half-day to brainstorm ideas and hypotheses to be covered during the week. The wishes and possibilities of the customer are, of course, central to this. Ultimately, one idea is chosen together. In the case of Logiqs, it was about predicting when a particular outage would occur so that they could anticipate it.

After the developers followed a three-day AI training, they started their AI assignment in collaboration with us. Our AI experts began setting up and training an AI model while the developers enriched and cleaned up the necessary data. "Unfortunately, on Thursday, the fourth day, we could not predict the failures," says Melvin Ducaneaux, senior software engineer at Logiqs and participant in AI Design Week. "First of all, disappointment dominates because you are all working hard on a solution anyway, and then it is annoying when it turns out that what you want is impossible. But we soon realized that this intensive week had been very successful because we gained so many new insights and learned a lot in AI."

New insights
Then it turned out that it was impossible to predict failures based on the current data, so the Aigency and Logiqs team started looking for what was needed to make this model successful. This was then put on paper so that the developers knew what they needed to take the following steps toward an even better product in the future.

In addition, it has become apparent that involving AI experts in any project is necessary. A three-day course is helpful and teaches the basics, but it only gives the knowledge that the experts have already acquired during their education and career. That is why it was great during the AI Design Week that the Logiqs developers could build on their teammates' expertise from Aigency.

"To be honest, I'm glad that we were not able to achieve a concrete result," says Marijn. "I would even have become very suspicious if it had been one big success story because the challenge was not big enough. For us, it was mainly about the learning process, and based on these results, we can build very well. For example, we have now realized we can do about three-quarters of an AI project ourselves. For the remaining 25 percent, we enlist the help of relevant experts, which is why building a good network in this area is so important. So that we can always call on expert partners for help."

Collaboration with us

Logiqs can reflect on a successful AI Design Week, and the smooth collaboration has undoubtedly contributed to that. "With their experience and expertise, they gave us a great first impression of AI, both through the training and during the AI Design Week," says Melvin. "In addition, they were very flexible in their approach and, together with their professionalism, ensured that we worked together very well and pleasantly."

I can wholeheartedly recommend other organizations that 'want to do something with AI' or already have concrete plans in this area to follow the AI Design Week

Marijn van der Zee, Chief Transparency Officer & Line manager at Logiqs

Aigency is here to help

Artificial Intelligence is disruptive enough to start now if you haven't. But it can be challenging to select the proper experiment to start with. It must be small enough but still valuable to your business goals.
We've seen more companies fail by starting too big than fail by starting too small. With our experienced team of AI experts and Data Scientists, we can combine technical diligence with business diligence. Not only by proving the value of your AI ideas within five days but also by guiding your team members with their first steps into the AI field.
So, don't hesitate to reach out to us, and let's prove the value of your best ideas.

Do you want to start with Artificial Intelligence? Joop can tell you all about it.

Joop Snijder
CTO

+31(0)6 – 53 64 34 73
joop@aigency.com

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About us

With Aigency, we build AI systems for organizations that want to do more with their data. Think of such customers as Heineken, Talpa, the Ministry of Health, and Liander. The secret of our success? Working closely with Universities, having a standardized approach and a team of experienced AI experts.

Visit our website for more information: Aigency.com.

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