

# Your route to success in industrial AI: Think big, start simple



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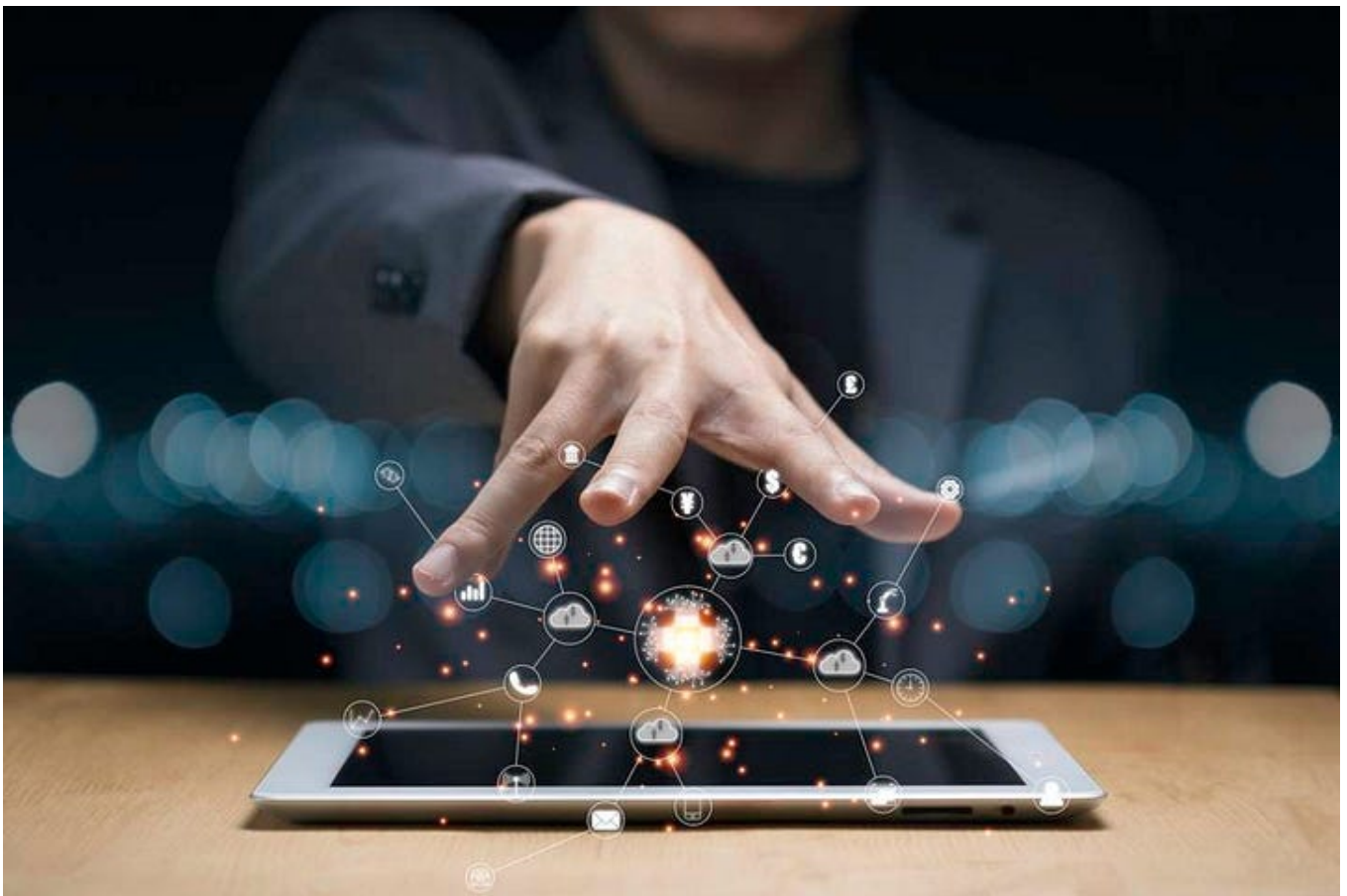


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You heard it: 1/3 of them fail. Many go over budget. That's why you are very careful. You know what I am talking about, right?

IT projects.

Because of numbers like these, IT projects are not everyone's darling, especially in industrial environments. The [2021 study](#) published by the Project Management Institute (PMI) provides some metrics that make us think: Only about 70 % of projects achieved

their original goals or business intents. 40 % are over budget and only just over 50 % of projects are completed on time.

And that's mostly for established technologies, not to mention new developments like industrial AI...

We were well aware of these concerns and fears when we founded our deep-tech startup, maXerial.

So from the beginning, we took a different path. In this fifth article in our series on industrial artificial intelligence (AI), we share how we are taking our customers on this journey into a technology that is often new or little known to them. Here's our route to your industrial AI success.

### **Think big, start simple**

The first cornerstone on your route is simplicity. Start simple, as simple as possible. But do not confuse 'simple' with 'naive' or 'for the sake of AI': We assume that you have thought about where AI could be used for your products or processes in your company. If not, talk to someone like us. We do this every day and can help you where the opportunities might lie.

For sure you asked yourself questions like: Where does the use of AI provide added value for my customers? Where does it differentiate me from the competition in the long run? Where can we create completely new cost structures with AI? Where can we scale with it? Where can AI help us to focus on our core business? What new AI products or services can I think of?

These are all business questions that you should answer for your company. They also depend on whether you pursue a cost leadership, technology leadership or niche strategy according to Porter's generic strategic choices. From these considerations you derive your overall goals and pick the low-hanging fruit on this path. You are now set to start simple: with a feasibility project involving AI technology.

### **Demonstrate feasibility — to you and your management**

Feasibility is the first step where you get your hands on the data. You start to massage it. You extract it from the available sources, do a few transformations, load it — ETL (extract, transform, load) it is called for good reasons when you do it later on at scale.

We see this in our daily work: It is important for you (and us) to demonstrate feasibility. Industrial AI is a relatively new technology. Maybe it is also a new business relationship.

So the goals in this phase are two-fold: (i) to assess the technological feasibility, and (ii) to build trust. This means gaining trust from your management, building trust in your AI service provider and getting trust in the technology.

Next question: How much does this cost? We say: Not that much.

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*We usually deliver this phase in hours or a couple of days.*

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That's our promise to the market — provided that you play at arm's length have done the groundwork above.

### **The proof of concept phase**

Typically, the feasibility ends with reviewing and assessing this simple start. It is also the first major decision point: Go on, or stop?

What we like about this: You stay in full control of the project. We see that this is very important to our customers — and we fully understand. You do not want to embark on the next endless IT adventure. The PMI report cited above remains present in your memory.

In the proof of concept (POC) or pilot phase, the goal is to move from "basically, it's doable" to "it works on your data and your problem". It is also the right time to play with all sorts of AI algorithms.

As we explained in an [earlier article](#), the problem to be solved provides the framework for the ML technology to the case at hand. This can be shallow learning: We love it because it tends to be very fast. It can be neural networks: endless flexibility! Or it can be the adaptation of an existing large-scale AI technology: Infinite generative power we did not even dare to dream of. This phase should be technology-agnostic.

### **Take off from POC to product development**

By the end of the POC phase, you generally have enough knowledge to answer a couple of key and business questions, like:

- How much money is needed to make a fully functional service or product?
- What is the timeline? What are the milestones? What are the next steps?
- What data do we need? Do we need new or additional data? Do we need to process existing data differently?

If such questions can all be answered sensibly and in the interests of the company for your AI product, it can actually go full throttle, right?

Unfortunately, no. In practice, we often see that projects do not go beyond the POC or pilot phase. And rarely is the reason that the intended business value is not achieved.

### **Practical caveats**

At this point of your route to industrial AI, we propose to think again about two main points.

First, take a step back and rethink the structure, content, and technology of your AI projects. This deliberate step is like the moment of delay in a good piece of theater: Rethink your AI stack from a slightly different direction. Look at it from a different angle. We will explore these considerations further in the next article.

Second, start thinking about your AI the way you think about your other products or services: in lifecycles. How long does it live? How do you maintain the AI service? How do you update the AI when new data becomes available? That will be the content of the seventh and provisionally last article in this series.

Why do we think this matters? Wrong decisions now will be more expensive in the long run. Also, the working POC tempts you to be too euphoric — after all, you just got some cool AI technology working! So join us for the remaining two articles over the next few weeks.

### **Further reading**

This is the fifth article in our series on industrial artificial intelligence (AI). More articles in this series (list updated on release):

- (1) [How to bring AI to your manufacturing company](#)
- (2) [Get machine-readable data for industrial AI](#)
- (3) [Build sandboxes and let them play](#)
- (4) [What kind of problems can you solve with ML in your company?](#)
- (5) [Your route to success in industrial AI: Think big, start simple](#)
- (6) [From pilot to maintainable AI technology stack](#)

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### From pilot to maintainable AI technology stack