

FROM LIGHTHOUSE PROJECT TO COST CUTTER



INDUSTRY 4.0 HAS LONG BEEN A STRATEGIC CORPORATE OBJECTIVE WITH A LONG-TERM CHARACTER FOR COMPANIES IN THE MANUFACTURING INDUSTRY. IN THE AGE OF VOLATILE MARKETS, THE QUESTION OF THE "RETURN ON I40" IS INCREASINGLY COMING TO THE FORE. BUT ARE TODAY'S INDUSTRY 4.0 SOLUTIONS SUITABLE TO ACHIEVE SHORT-TERM COST REDUCTIONS AT ALL?

Interview with Prof. Dr.-Ing. Werner Bick, Chief Representative, ROI Management Consulting AG

How mature is Industry 4.0 in Germany at the moment?

Looking at Industry 4.0 as a product development process, I would say that we are currently in the rollout phase. This means that the necessary basic principles and technology modules are largely known to companies and relatively cheaply available. Many of them have already carried out successful pilot projects and gained initial experience. Now we can see how these companies are establishing their industry 4.0 solutions across the board and how small and medium-sized companies are also getting involved in the topic. At the same time, the degree of maturity of the solutions is also increasing, as the winners of last year's Industry 4.0 Awards show.

Given this progress, how do you explain the fact that labour productivity in a sector such as mechanical engineering has not increased but decreased¹ since 2005?

There can be many reasons for this. On the one hand, it should not be forgotten that many companies are still going through a learning process, for example, when it comes to the question of which instruments suit them best or how they have to align their organization accordingly. On the other hand, the complexity of products has increased many times in recent years. A higher level of product individualization, as made possible by industry 4.0, for example, is often at the expense of productivity. In some cases, the immediate efficiency-enhancing effect can therefore not be felt for the time being.

Against this background, are industry 4.0 technologies suitable as short-term cost-cutting measures at all?

Absolutely. There are two main cases in industry today: On the one hand, there are companies that have to invest first and for whom the payback may take longer as a result. On the

other hand, you have companies that manage to directly and immediately save costs with simple, scalable solutions without major initial investments. Basically, in order to shorten the time to "Return on I40", the appropriate instruments in combination with a procedure adapted to the specific requirement are needed.

What does it look like?

Many companies think Industry 4.0 very strongly in terms of the target image of the completely smart factory, in which all elements of the value chain are continuously networked and all information flows together in real time.

This is fundamentally sensible and correct, and does not help those who need to quickly optimize their cost structures in assembly or in their supply chain until they find applications where they can use this knowledge to reduce lead times and increase plant availability, for example. In concrete terms, this means that the major six-year programs must be supplemented by smart

six-week projects that enable quick wins and rapid savings effects. These so-called Instant I40 solutions, comparable to Point-Kaizens, are applied at individual points in the value chain and create selective improvements with a direct economic effect.

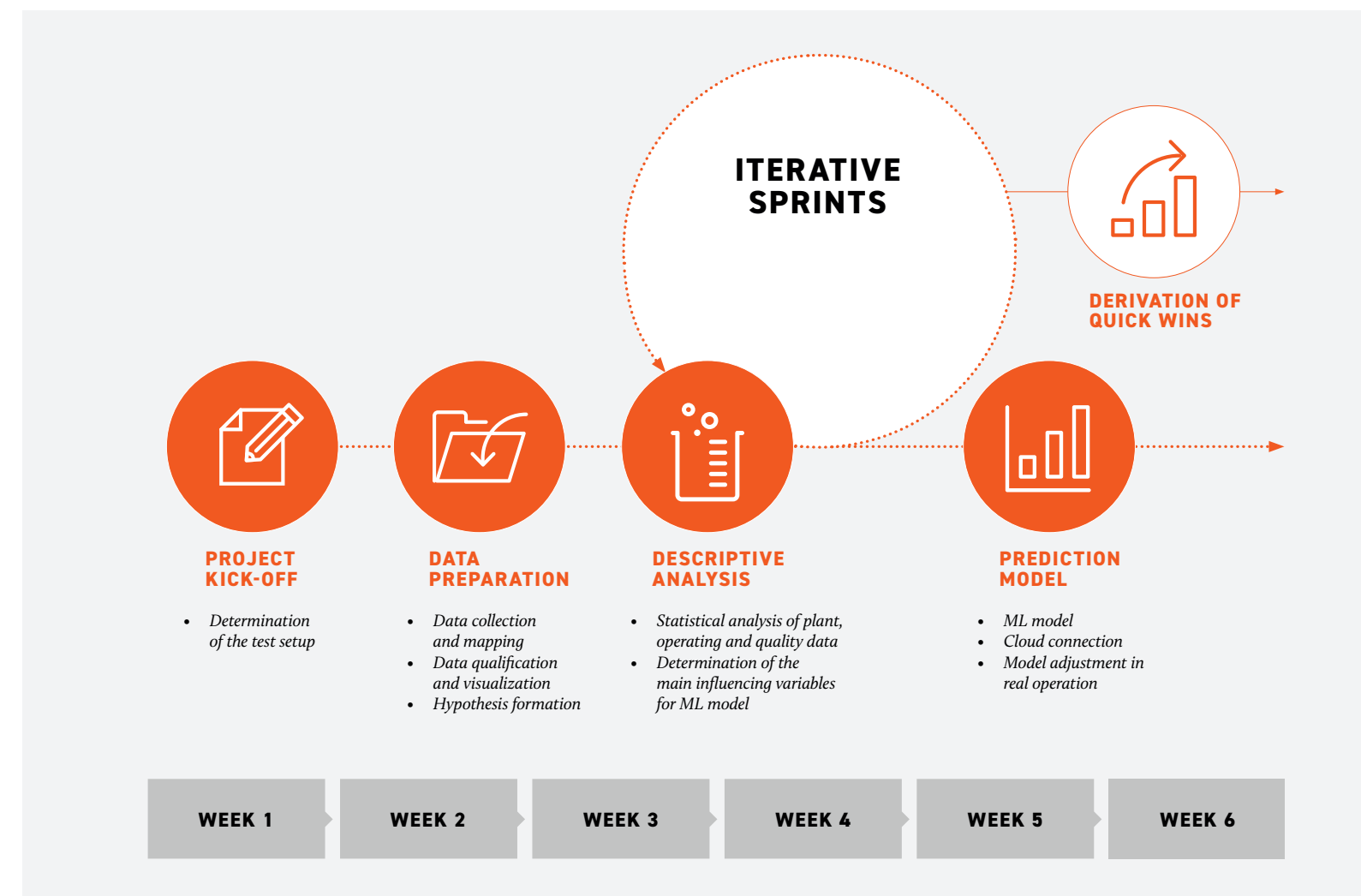
Does this mean that companies should concentrate only on those measures that bring immediate benefits?

Not exclusively, of course. The systematic development and expansion of an I40-compatible infrastructure, such as the integrated networking of machines, operating resources and products, is an essential prerequisite for being able to exploit the full potential of more complex industry 4.0 solutions at a later date. It must never be neglected in favour of short-term efficiency gains. The good news is she doesn't have to. Rather, it is a matter of identifying quick wins along the overriding industry 4.0 roadmap and implementing them quickly and efficiently.

What could those be?

Basically, these can be all solutions that use industry 4.0 elements to leverage cost savings along the industrial value chain. They often build on existing lean processes, as in the case of digital shop floor management, where existing lean management practices are extended by digital elements to create tangible added value. Another example is the use of advanced analytics to implement a predictive analysis model in manufacturing. This enables companies to develop a digital twin for particularly quality-critical production processes within a six-week sprint in order to sustainably improve process stability and quality.

Thank you for the interview.



¹<https://www.zew.de/forschung/produktivitaetsparadoxon-im-maschinenbau/>