



DEUS EX MACHINA?

How intelligent automation drives competitive advantage

In 2013, Carl Frey and Michael Osborne of Oxford University were among the first researchers to provide a scientific perspective on the impact of computerization on our working world and job situation. Their paper, though disputed, did not only set a societal discussion in motion, but also provided food for thought for how companies need to plan ahead for the future of their processes and employees. Following in the footsteps of the Oxford paper, many more studies have been published since that focus on the automation potential of the global economy as well as individual sectors and countries. But nearly all these only provide a long-term outlook.

To determine the potential that companies can attain with automation right now, goetzpartners conducted an expert survey with many of the leading software companies that enable automation¹ through technologies such as Robotic Process Automation (RPA), Business Process Management (BPM) or Artificial Intelligence (AI). Apart from a certain level of optimistic bias regarding the results from the participating companies, the panel provided a broader horizon and deeper understanding of the topic than would usually be expected from managers responsible for implementing automation within a single organization alone. Therefore, the results provide a helpful additional perspective for business leaders who must decide on their companies' digitalization and automation strategies.

DANGEROUS HESITATION

However, automation technologies should not be treated like a "Deus ex machina"-device. In an ever-changing business world, waiting for a magical solution to a seemingly unsolvable problem is seldom a promising strategy. The goetzpartners expert study provides concrete perspectives on how the intelligent use of machines can create a sustainable competitive advantage and how companies can get control over this development.

While in most established European companies there are shattered proofs of concepts and even actual applications in several business functions, such as IT or Finance, only few pursue overarching, concerted programs to drive intelligent automation and make full use of technologies such as RPA or AI. There are three major threats that render a lack of an overarching automation strategy very dangerous:

- **Increasing international competition:** Many other regions outside Europe – most notably China and the U.S. – take a much more strategic stance and invest heavily into intelligent automation. U.S.-based companies Amazon, Facebook, Alphabet, Microsoft and Apple together spent over \$70 billion on research and development in 2018, a sum of which a large part is invested into AI². China has already overtaken the U.S., with the government's latest venture capital fund for AI investing more than \$30 billion into state-owned firms³. This trend is reflected also in the business strategy of individual companies: While nearly 9 out of 10 Chinese companies are active AI players, in Germany the percentage is only 49%⁴.
- **False sense of security:** Even companies with business models that appear to be

safe from technological disruption will eventually face it. The average lifespan of large publicly traded companies has continuously decreased over the last decades and will continue to do so⁵.

- **Underestimated adoption time:** People need their time to acquire new skills and change their mindset. This cultural change is also essential for successfully hiring and retaining the new talent every company requires. If the culture clash of existing employees and newly hired technology experts is too large, the organization will reject the targeted infusion of new skills.

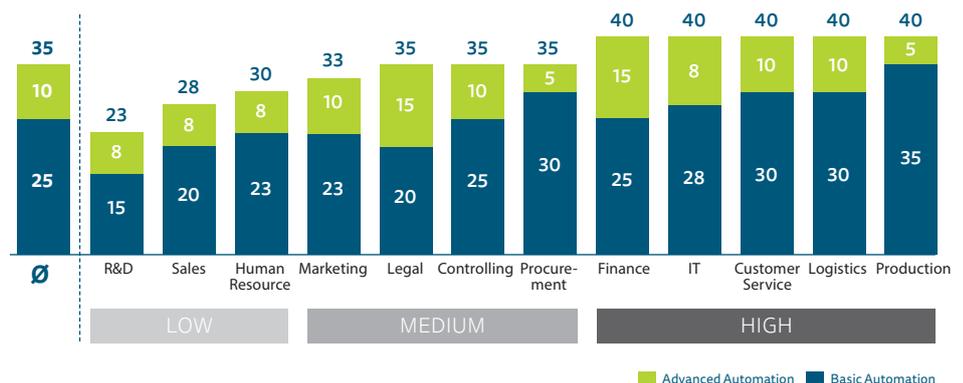
NEARLY 35% IS THE POTENTIAL CURRENTLY ATTAINABLE

The goetzpartners study has found that today, companies could already automate up to **34.8%** of the work conducted manually with a positive business case according to our expert panel. The lion's share – **25.2%** – is obtainable by means of basic automation and the computerization of simple, rule-based tasks though technologies such as RPA. An additional **9.6%** can be achieved with advanced automation of more complex processes requiring cognitive capabilities provided by technologies from the realm of AI.

CURRENTLY ATTAINABLE AUTOMATION POTENTIAL

by core function [in %]¹

[1] Numbers may not sum up due to rounding



1) Expert Circle consisted of 20 technology and software companies providing automation and AI tools
 2) Statista, 2019: <https://www.statista.com/statistics/265645/ranking-of-the-20-companies-with-the-highest-spending-on-research-and-development/>
 3) The Conversation, 2019: <http://theconversation.com/china-is-catching-up-to-the-us-on-artificial-intelligence-research-112119>
 4) Forbes, 2018: <https://www.forbes.com/sites/louiscolombus/2018/12/16/how-china-is-dominating-artificial-intelligence/#6d709b152b2f>
 5) Innosight, 2018: <https://www.innosight.com/insight/creative-destruction/>

Beyond the obvious potential of enabling more efficient processes and decisions, there are further benefits that intelligent automation brings to businesses.

Firstly, it helps companies to cope with constantly growing compliance requirements. For instance, built-in documentation can establish a flawless audit trail, while automated compliance checks prevent and identify critical issues. Secondly, intelligent automation creates the basis for new business models, as it makes unique process data available and creates digitally steerable processes.

A PATH TO OWN YOUR AUTOMATED FUTURE

As discussed before, many companies are risking their future by not giving sufficient priority to building a new operating model centered around intelligent automation and enabling their employees to strive within that model. There are three key factors for business leaders who want to pave a path for their organizations toward a sustainable competitive advantage in the future (see below):

AUTOMATION REQUIRES NEW SKILLS

There are many indications pointing to the conclusion that automation will not result in a lower number of jobs overall. Rather, as has been the case in past industrialization waves, new opportunities will outweigh the redundancies. But of course, that is not necessarily true for any individual sector or organization. Nonetheless, the interests of companies and individuals align nicely when it comes to investing in enabling employees in the areas of automation and digitalization. While few jobs will be replaced completely, most will be augmented by machines. The skills required to work effectively with machines and harness their full power will be critical for most employees to succeed. Building the workforce of the future by hiring new talent and retraining existing staff will be a key challenge that companies automating their business should take on now.

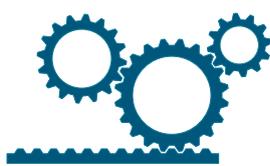
In order for automation to have the far-reaching impact that companies aspire to, automation technologies should be seen as a driver of new business models rather than just an enabler.

CEOs can no longer treat intelligent automation as a side project. It not only lays the foundation of tomorrow's competitive advantage but also has a tremendous impact already today.



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A PATH TO OWN YOUR AUTOMATED FUTURE



STEP 01
CONCERTED PROGRAM

To reap the full potential of intelligent automation, it is often required to **tackle processes end-to-end** or even to establish new operations within or outside the existing organization. Local optimization of functions or regions needs to be complemented with **overarching answers to critical questions** concerning data strategy, cybersecurity, impact measurement or algorithms.



STEP 02
LEARNING JOURNEY

Since digitalization affects nearly everyone, companies' digital-enablement initiatives also have to **address the entire workforce**. This starts with easily accessible tools to send employees on a learning journey who are so far rather repelled by technology jargon. It then continues with **clearly defined pathways** that enable employees to acquire essential skills about how to apply advanced technologies and how to benefit from **new ways of working**.



STEP 03
PARTNERING APPROACH

More than ever, make-buy-partner decisions are a critical success factor for businesses. Concepts that have been pioneered in agile software development, such as micro services and APIs, **make collaboration a promising proposition** where high transaction costs rendered it inefficient in the past. Companies that want to take a leading role in intelligent automation have to make clever choices about where to join established platforms and how to **create a dynamic network** of start-ups operating at the edge of the industry, as well as which alliances to form.