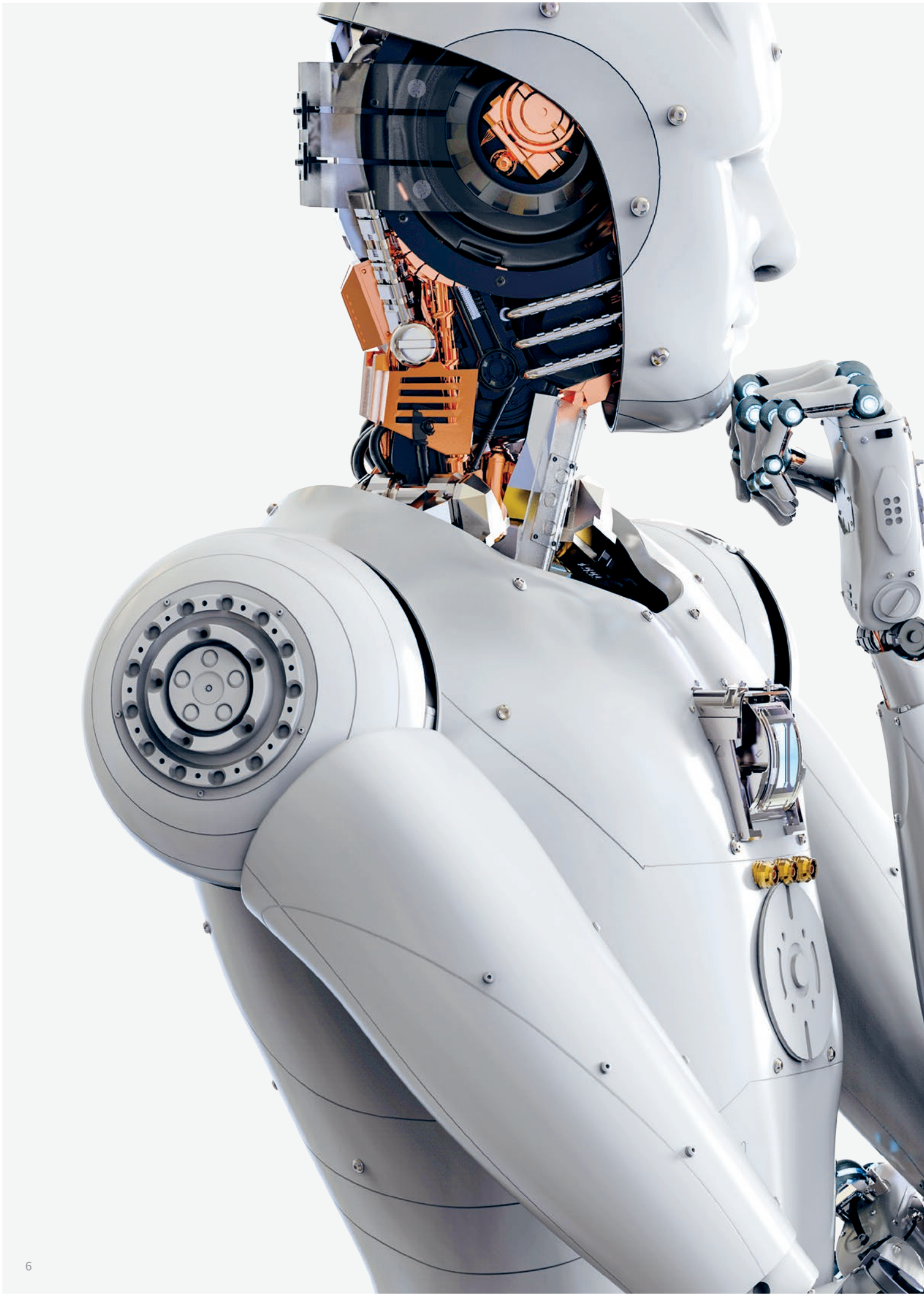


WORKING TOGETHER WITH ROBOTS THAT THINK

Many decision makers have recognized the signs of the times: a company‘s administrative and service divisions can only efficiently meet increasingly challenging customer requirements if they automate their processes to the greatest extent possible. *Holistic approaches are needed* to anchor new technologies deep within the corporate structure.

Many decision makers recognize that the expectations of current and future customers can only be met through the highest degree of automation.

Humans and robots working hand in hand, completing coordinated processes until the finished product leaves the factory – this scenario has been commonplace in production facilities all over the world for many years. Robots and other computer-controlled systems are integral components of automated production processes, and are generally accompanied by a substantial increase in efficiency. The tasks which fall to human workers on modern production lines are quite different from what they used to be: they now control production processes, fulfill any special customer requests and take action to solve problems in the event of a failure. Instead of traditional conveyor belt work, employees now tackle more demanding activities and act as experts in automation technology, robot control or production design. Accordingly, employees' skills more significantly involve the interplay between human and machine.

TIME FOR CHANGE

Unlike the production environment with its highly refined technology, the processes and tasks involved in business administration and company services have hardly changed in recent decades – despite digitization and ever-more-powerful information technology. Manual processes continue to dominate. Administrative staff busily input information from Excel lists by hand, and media failure means that data must be recorded redundantly. In other words, there is still considerable potential for optimizing processes and working more efficiently.

There have been repeated attempts within the service industry to increase productivity. In the past, decision makers have introduced new platforms and have been willing to invest in automation solutions. However, these efforts met with little success for various reasons, including the increasing complexity of process and product landscapes and the fact that the automation technologies implemented did not achieve the stability and economic efficiency required. Finally, the necessary investments exceeded companies' financial means. In the past, the alternative to process automation was often found in outsourcing particular work steps to low-wage locations, and completing the work there with little or no change except for lower labor costs.

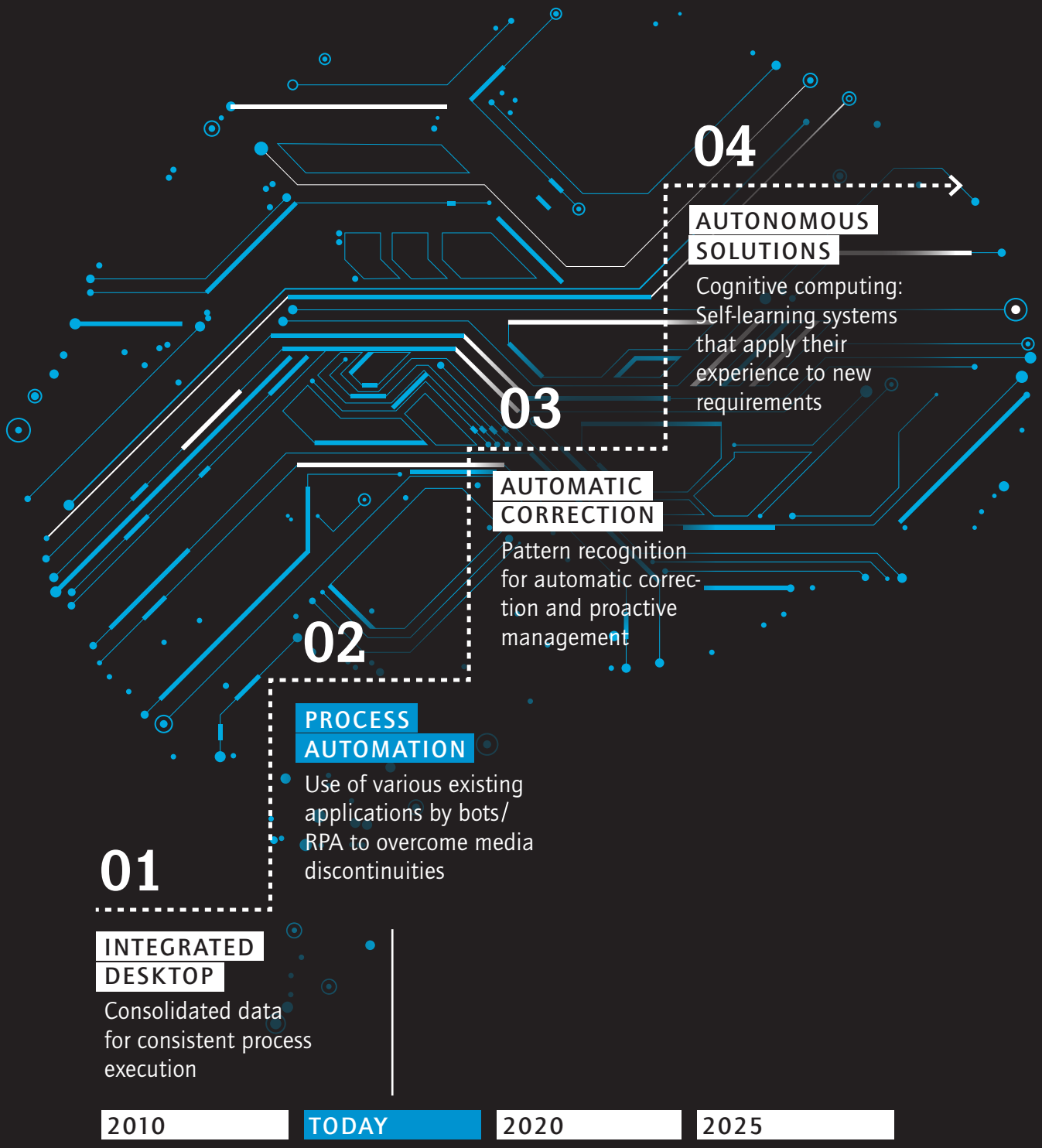
In the age of digitization, however, this strategy is reaching its limits. The digital transformation has fundamentally changed the conditions under which companies act and the requirements to which they are subject. The advantage of higher efficiency is no longer the only argument in favor of automation. Rather, customer expectations can today only be met by employing a high degree of automation. In addition, technologies which are essential for the consistent automation of service processes have reached a new level of maturity. Robotic process automation (RPA), machine learning and natural language processing (NLP) – which includes speech recognition and the translation of texts – can now reasonably be used by wide circles of users, and are close to making a general breakthrough as realistic alternatives for the handling of service processes.

BETWEEN INTENTIONS AND REALITY

The two Horváth & Partners studies, "The Use of Bots in the Financial Services Industry" and "Production Management in Service Centers", demonstrate that the backlog in terms of process automation in the business administration and services sectors is not due to a lack of willingness on the part of managers. The reports examine the effects of using robots and artificial intelligence on the future design of processes – and bring to light a considerable discrepancy between intentions and reality. "In most cases, decision makers are aware that their companies are lagging behind technological developments, and recognize the need to automate processes and create intelligent working environments," states Sebastian Ostrowicz, Principal at Horváth & Partners.

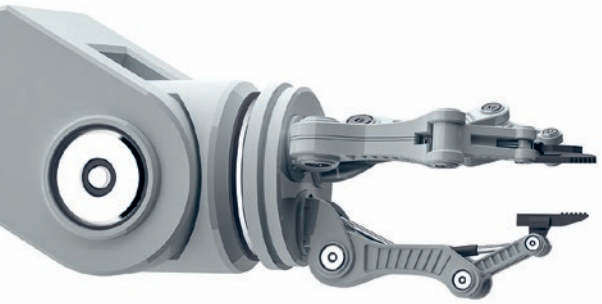
This self-assessment is just as clear as the expectations with regard to process automation. In customer administration and financial processes in particular, decision makers are counting on average increases in efficiency of between 20 % and

PROGRESS OF INTELLIGENT PROCESS AUTOMATION



Current initiatives focus on process automation by means of bots/RPA. Today's robot technologies manage processes with structured data in an autonomous, rule-based manner. In the future, pattern recognition, predictive workflow management and artificial intelligence will be added.

Source: Horváth & Partners 2017



Robots can complete within seconds processes that have previously been handled manually at great expense.

30 %, with peak values as high as 50 %. From a cross-sectoral perspective, approximately two in three companies expect that the implementation of bots and intelligent machines will be of high to very high relevance in the future. The studies show that the automated handling of mass processes is especially important for shared services center organizations, such as those in the areas of HR, IT, finance and operations.

NO STANDARDS

The study paints an equally clear picture of the barriers which obstruct the implementation of automation solutions: the main problem identified by more than 70 % of respondents is a lack of process standardization, followed by insufficient expertise and employee resistance, each at 50 %. The differences between the various industries and sectors – sometimes huge – concerning the level of dissemination of bot technologies are striking. While three-quarters of companies in the financial services sector have already gained experience through their initial pilot projects, or are currently implementing such projects, only every second company in the manufacturing industry is planning to use bots in service processes.

Pressure on companies to act is increasing, however. The costs associated with manual work steps, common media disruptions, long process run times and incomplete sources of information are increasing. Companies wishing to assert their market positions must be able to generate relevant data from unstructured content quickly and precisely. In short, there is no longer any escaping gradual digitization and automation.

TOWARDS THE DIGITAL COMPANY

RPA is a key technology in ensuring that the process of transformation from the analogue to the networked, digital company is a success. "Bots offer huge potential for the handling of sales, service and administrative processes," explains Sebastian Ostrowicz. "Processes that were previously handled manually and laboriously, in distributed systems with high error rates, can now be completed in seconds." It is not necessarily essential to change your IT environment in order for robots to take over routine front- and back-office tasks through automation. RPA uses the interfaces of existing systems. On the basis of algorithms, robots detect anomalies in the process, implement measures autonomously and boost sales. They analyze incoming data, assign it to the respective processes, identify relevant subject content, and use necessary applications.

However, the success of process automation is also dependent on certain conditions. A holistic approach is needed in order for the available efficiency potential to be realized across a wide range of processes, products, and services. In shared services centers, the interplay between humans and bots must be synchronized, process and product design must be standardized, and employee skills must be developed with regard to the utilization of bots. The psychological component also plays an important role in this respect. Management should take employees' fears of being replaced by machines seriously, and involve them from the start in change management initiatives within pilot projects. Getting employees on board with process automation means spreading the message that bots are digital assistants that will relieve their human co-workers of unnecessary and cumbersome tasks. They are not intended to replace people, but rather to free up human capacity for higher-value tasks. If, on the other hand, the impression develops that only the machines are controlling the processes, acceptance and cooperation can hardly be expected.

INTEGRATED CONCEPT AS A NECESSITY

With the growing dissemination of RPA, the automation of service and customer processes is reaching a new level, approaching the conditions described above for the manufacturing industry, where bots are already handling many work steps. Digitization is contributing to overcoming technological disruptions in processes. In the future, process management and administrative processes will focus on handling special requests and exceptional cases, while standard activities will be performed by machines.

In order to implement the new possibilities in a profitable manner, there is a need for a concept that will integrate the technical innovation usefully and stringently into a management framework. Horváth & Partners has summarized these challenges in an approach to Operations Performance Management 4.0, which transfers the automation principles used in the manufacturing industry seamlessly to the requirements and peculiarities of digital service processes, and anchors them in performance management and optimization (see article on page 16). One of the sectors intentionally driving the use of RPA is the financial services sector. Institutions in German-speaking countries are pushing for the full automation of processes. In view of increasing pressure on revenue and cost, resulting from low interest rates and stringent regulation, the implementation of bots promises banks sustainable progress in their efforts to minimize expenditures. RPA is more efficient than the outsourcing that has taken place for many years (see article on page 26). "Using a software robot can result in considerable cost savings," emphasizes Sebastian Ostrowicz. "In light of this, banks are toying with the idea of pulling back their outsourced functions. RPA is especially important for non-customer-related activities and leads to higher process speeds and improved service quality."

MACHINES THAT LEARN

RPA functions precisely and reliably, but reaches its limits as soon as it is faced with unstructured data such as emails or letters, or processes that deviate from defined rules. If, on the other hand, bot-assisted process automation is supplemented by learning software, even unstructured data can be transferred to the system. Self-learning software validates parameters, cons-

5 TIPS
FOR PROCESS AUTOMATION

1 **Think big, start small**
A target design serves as a "compass" for automation measures; the company can gain initial experience with robots in pilot processes.

2 **Digital process platform**
It is practical to invest in a digital platform for the integrated management of all process types. This continuous end-to-end process overview expands the room for maneuver.

3 **Modular architecture**
Bot solutions can only reach their full potential if the process architecture is modularized and standardized simultaneously.

4 **Integrated planning**
Integrated management and planning of all labor resources ensures that the intended increase in efficiency will be achieved, and prevents idle capacity.

5 **Getting employees on board**
If the pilot processes represent cumbersome, unpopular activities, employees will perceive the bots as a positive source of support.

tantly learns as it goes along, and indicates when it has reached its limits. Other significant development stages are already within reach, with the integration of artificial intelligence (AI) into processes, and improved speech integration. Now, it is simply a matter of time until they reach their full potential.

It is not only the experts who agree that artificial intelligence will make its way into an ever-increasing number of sectors. Analytics company IDC estimates the current volume of the sector at $8 billion and is predicting that this figure will grow to $47 billion by 2020. "AI systems work on binary code, like conventional computers," explains Sebastian Ostrowicz. "However, they are set up in such a way that they can perform millions of calculations simultaneously, constantly evaluate their work and are involved in the pending resolution of new challenges. The computers have a built-in optimization program, so to speak." The artificial brain consists of thousands of computer chips. The engineers looked to nature in designing and structuring the system: similarly to neurons in a brain, the chips react to one another, send each other signals and autonomously become active or passive. In this way, huge data sets are collected in the control and nerve centers of the machines, and these data sets help the systems to learn. Taking a wide range of parameters into account, they make autonomous decisions and imitate human reasoning, as well as the resultant behavior. AI software is trained using training sets as examples. Such technology results in robots that think, shorter response times and higher customer satisfaction levels. ■

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