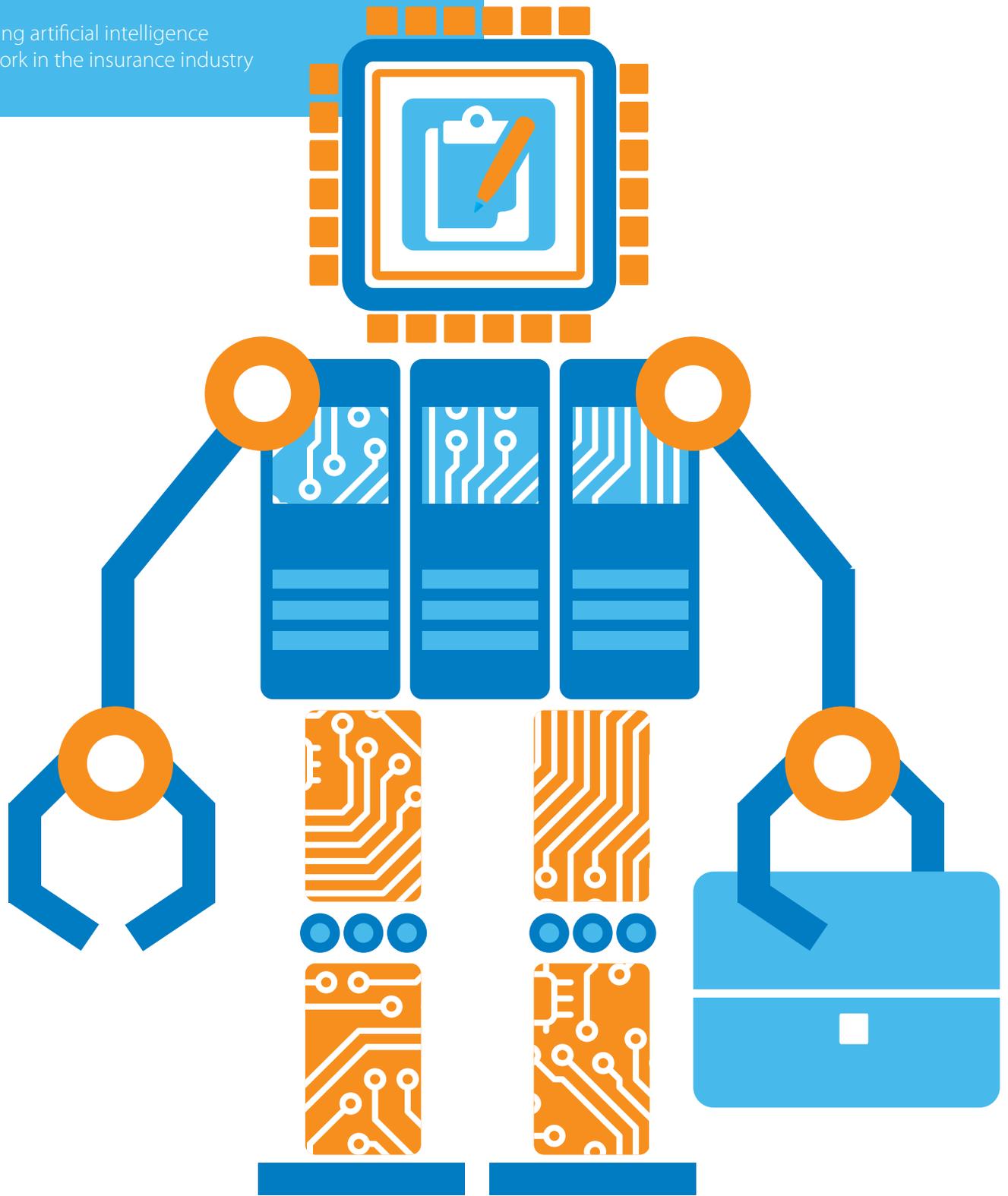


# Robotic Process Automation

Putting artificial intelligence to work in the insurance industry



## EXECUTIVE SUMMARY

Robotic process automation (RPA) and artificial intelligence (AI) are true “game changers” for boosting efficiencies and achieving cost savings in the insurance industry. RPA is used to automate repetitive, manual, time-consuming rule-based tasks or to establish a fully automated end-to-end process with the aid of a “software robot.” Moreover, RPA is the foundation for a broader digital transformation strategy and the next level of automation, supported by machine learning and AI. RPA can be leveraged across the entire insurance lifecycle. RPA projects can be completed in as little as eight to twelve weeks and can reduce operational costs by as much as 75%. This makes RPA an attractive option for companies that are looking at increasing automation as a competitive edge in today’s marketplace.

## 1. Introduction

Insurance companies today face tectonic shifts in the industry landscape due to technological innovation, new forms of competition and an ever-challenging financial environment. Furthermore, many insurers are limited in implementing new technologies due to legacy IT and paper-based infrastructures.<sup>1</sup> In 2015 about 36% of property and casualty (P&C) carriers captured customer information electronically and processed the data with straight-through processing.<sup>2</sup> As a way of meeting today’s challenges, there has been a surge of interest in the practical uses of artificial intelligence (AI). This white paper seeks to bring clarity to the current application and future potential of robotic process automation (RPA), one of the most accessible fields of artificial intelligence for the insurance industry.

## 2. RPA along the AI continuum

There is a great deal of confusing terminology on AI and its subfields such as robotic process automation or machine learning. The following “AI continuum” (see page 3) describes Infosys Consulting’s view on recent, current and future evolutionary steps in this area. There is no strict boundary between the different disciplines; technologies may cover more than one discipline and each discipline includes various subfields.

The beginning of the continuum shows the first level of automation, based on specific “if . . . then . . .” rules programmed for each step in a particular process, usually within one IT application and without exchanging data between different applications.

The next stage represents robotic process automation. The automation of specifically defined, repetitive, rule-based tasks carried out by humans over single or multiple applications is an important step to achieving a seamless, digitized, end-to-end process. The digitization and automation of incoming paper mail, email and input from other channels is another important field of RPA. Robotic process automation is a crucial enabler in moving up the AI continuum.

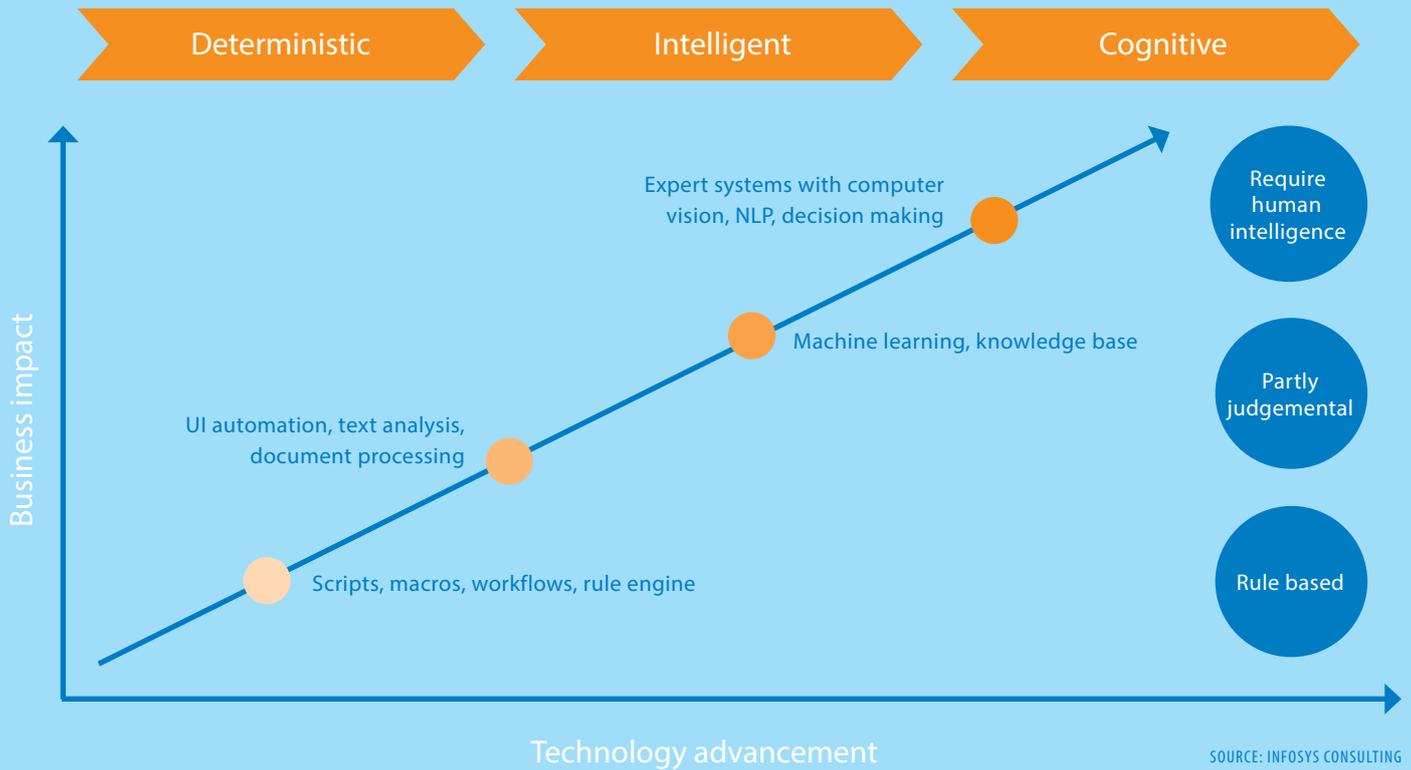
Machine learning is another step up the continuum. Instead of manually formulating all of the rules to interpret data, algorithms allow a program to learn and determine the rules. The described development is based on experience gained in similar cases. The more data from the past that is available, the better the learning curve. Machine-learning programs still require human intervention. They can present a variety of choices to consider but are usually not programmed to take decisions. Possible fields of application in the insurance industry include claims management with fraud detection or evaluating a claim. Another field could be underwriting for risk assessment support.

At the current top of the continuum are expert systems that act like humans. They include automated reasoning and decision making. Furthermore, they recognize and respond to human speech. Computer “vision” can support the decision-making process where needed with the ability to perceive the environment and objects. On this level, the system can take decisions without human intervention. The most widely known examples in this area are the first self-driving cars. Possible fields of application within the insurance industry include offering personalized products or supporting the underwriting decision. Another field could be a fully automated end-to-end handling of mid-size claims.

### Robotic process automation explained

Robotic process automation refers to a sophisticated “software robot” configured to partially or fully execute activities typically handled by humans — not to a humanoid, futuristic robot. This coded “virtual workforce” is best used for repetitive, manual, rule-based tasks, for example, the transfer of coverage details from the product offering system to the policy system to prepare the issuance of the policy. Simply put, RPA mimics specifically defined human action at the user interface. RPA is able to connect multiple existing IT systems in an efficient way and speed up processes.

It is important to note that RPA and other forms of AI do not replace software programs in fields such as customer relationship management, billing, ticketing, etc., but work in partnership with them.



### 3. Forces driving change in today's insurance industry

As in every industry today, insurance companies are under continuous pressure to meet shareholder expectations and deliver strong profits. Traditionally, insurance companies have been able to invest premiums paid by customers into a number of financial instruments and get good returns. But in today's low or even negative interest rate environment, this source of income has dried up.

The competitive landscape has also become much tougher. Online insurance providers with minimal "bricks and mortar" infrastructure can offer extremely low rates. Using search engines and comparison platforms to find bargains, private insurance customers are placing continued downward pressure on prices.

On the corporate side, brokers negotiate with insurance companies to get the best price-performance ratio for their clients. On the horizon looms potential competition from companies such as Google, Amazon and Facebook. These global giants have accumulated huge amounts of personal data and are only small steps away from offering customized insurance products based on individual profiles. In addition, more and more customers expect strong, personal digital interaction with the insurer, e.g. the ability to upload documents to a portal instead of using paper mail, or opportunities to buy a product spontaneously with a mobile app or on a social media platform. To counter these challenges, the insurance industry needs a much higher level of efficiency and tech-savvy, personalized products as well as new ways of doing business to stay at the competitive forefront.

In parallel to the megatrends driving change in the insurance industry, there are operational "pain points" that insurance companies are urgently trying to address (see box on the right).

#### Robotic process automation can solve operational "pain points":

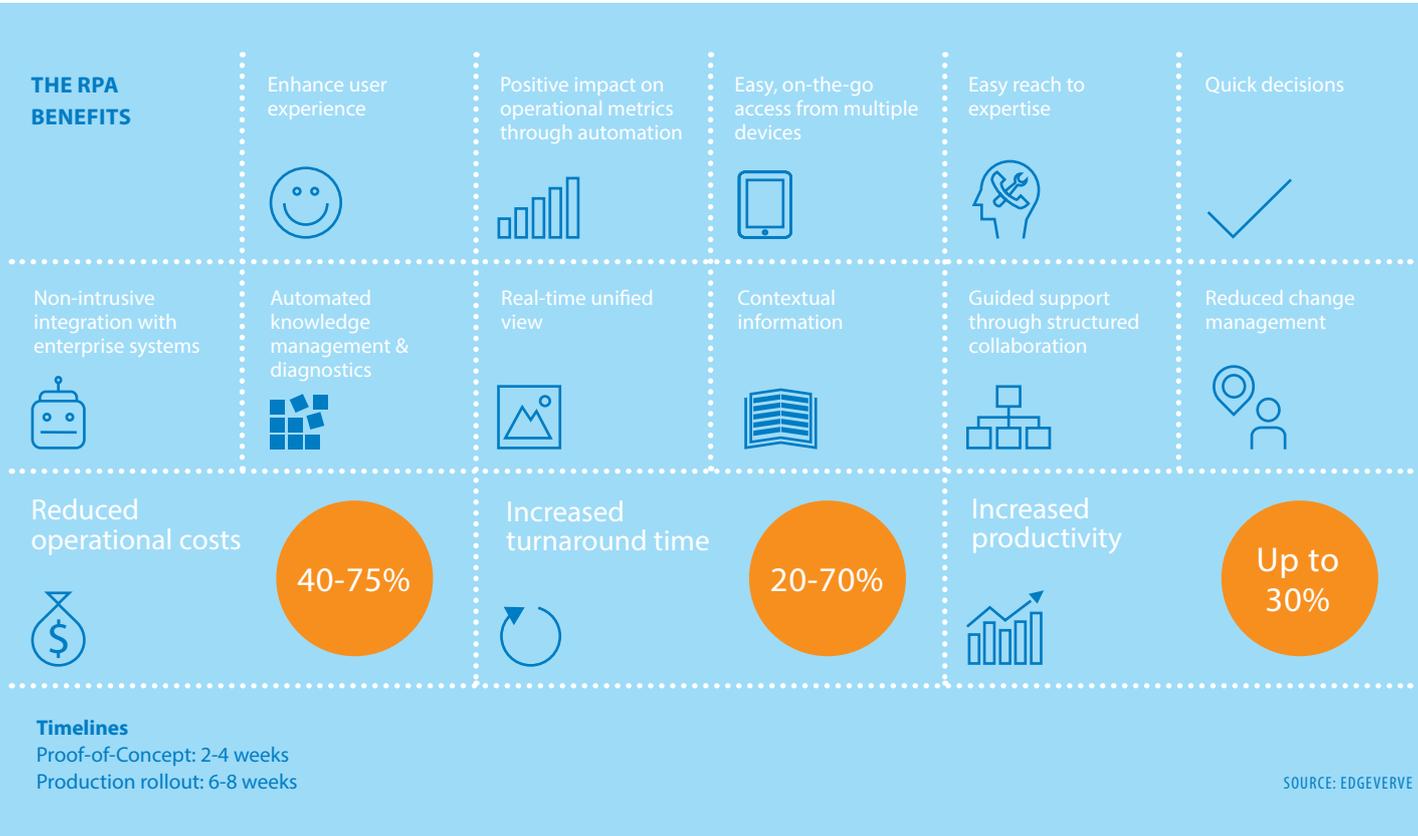
- » Repetitive tasks done manually
- » High potential for human error
- » Sequential handling and bottlenecks
- » Individual silos of process knowledge
- » Data dispersed over mutually incompatible IT systems
- » Absence of dashboards to track case progress
- » Long response time for customers
- » Long process training cycles due to complexity
- » Limited ability for quality control and governance

# 4. Benefits of RPA

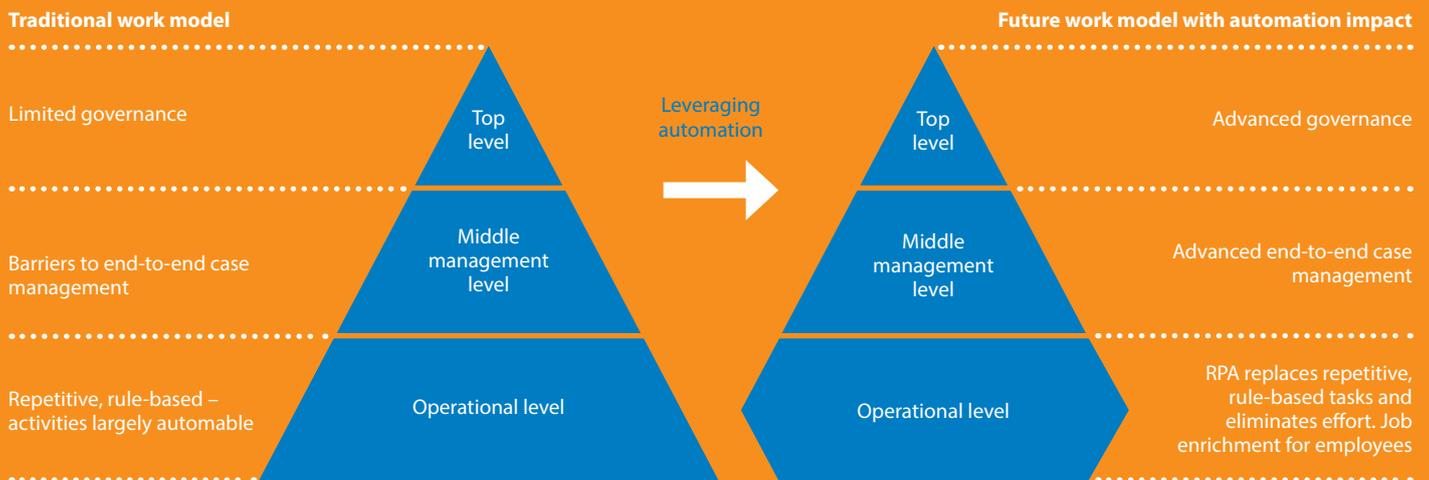
Factors that make robotic process automation attractive include fast implementation and as a result also a quick return on investment. The graphic below lists typical results in reduced operational costs, increased turnaround time to fulfill a request and increased productivity.

“pyramid” to a “pentagon” model (see diagram below). As RPA covers repetitive, rule-based tasks, it allows employees (especially on the operational level) to focus on more challenging, higher value activities such as monitoring, quality control and problem solving – and thus amplifying the workforce potential of every individual.

From a strategic human resources perspective, robotic process automation has the potential to reshape the workforce from a



## THE RPA WORK MODEL CHANGE



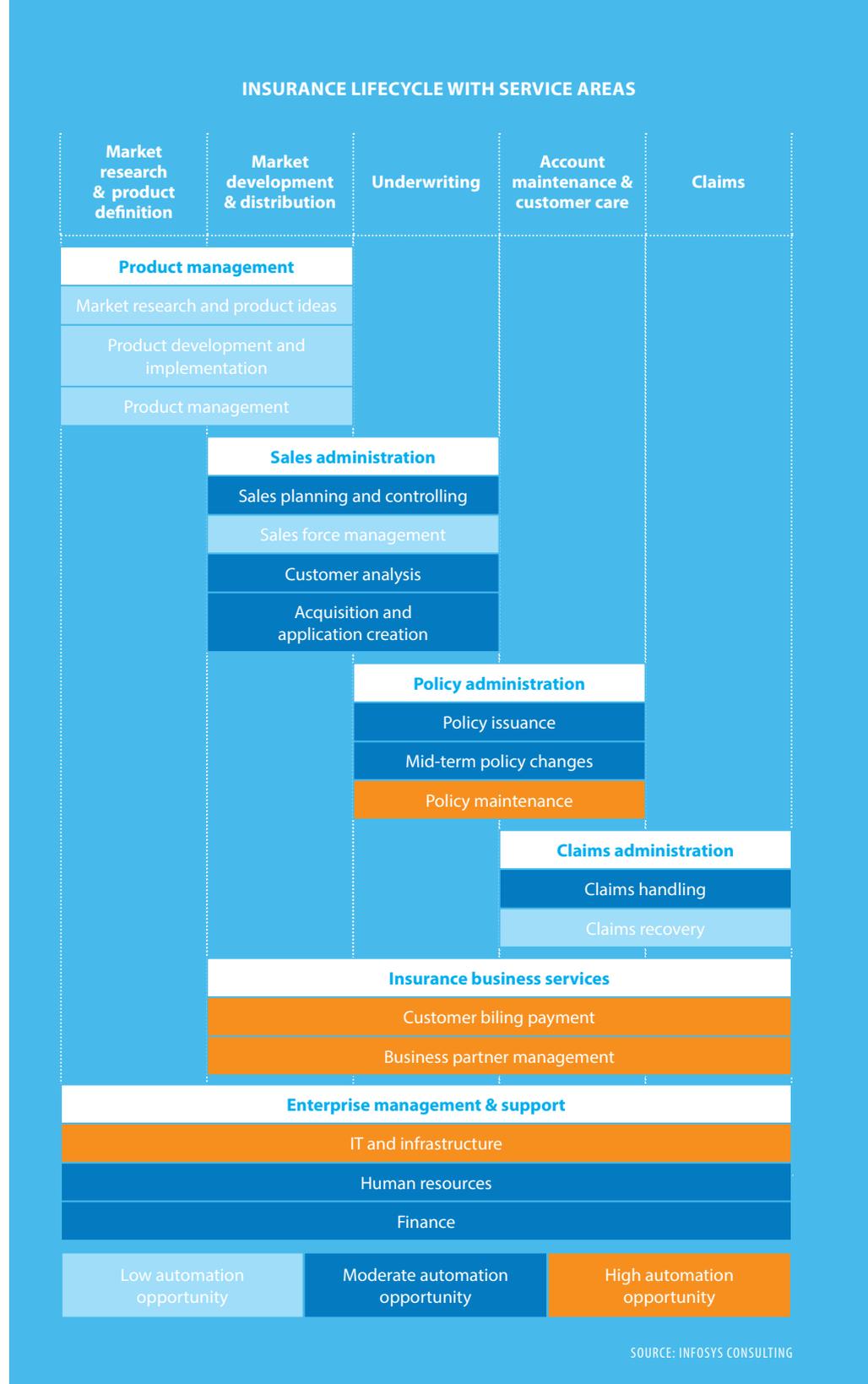
SOURCE: INFOSYS CONSULTING

# 5. Practical applications of robotic process automation in insurance

At a high-level process perspective, insurance companies offer varying automation potential. The capacity for implementation depends on the IT landscape, the processes and organizational structure, the business areas and the automation maturity level across the enterprise.

The graphic on the right shows the automation potential within the different service areas (administration, service and support work) across the entire insurance life-cycle.

Robotic process automation can help insurance companies become more cost-efficient and competitive across many daily operations as well as create digital end-to-end processes to enable future technologies. The graphic below lists concrete examples of RPA in each service area.



## RPA APPLICATION EXAMPLES FOR SERVICE AREAS

### Sales administration

- » Generate leads and assign to agents
- » Create sales funnel report
- » Check the credit standing
- » Enter data in product offering system

### Policy administration

- » Enter data in policy system
- » Issue policy
- » Update policy for planned events
- » Check change requests and execute or transfer to 2nd level support

### Claims administration

- » Automate registration and assignment to claims handler
- » Straight-through processing based on automated claims segmentation
- » Rule-based fraud detection
- » Track claims over various applications

### Insurance business services

- » Automate claims payments
- » Automate daily reconciliation
- » Recognize and solve duplicates in partner data
- » Automate partner changes

### Enterprise management & support

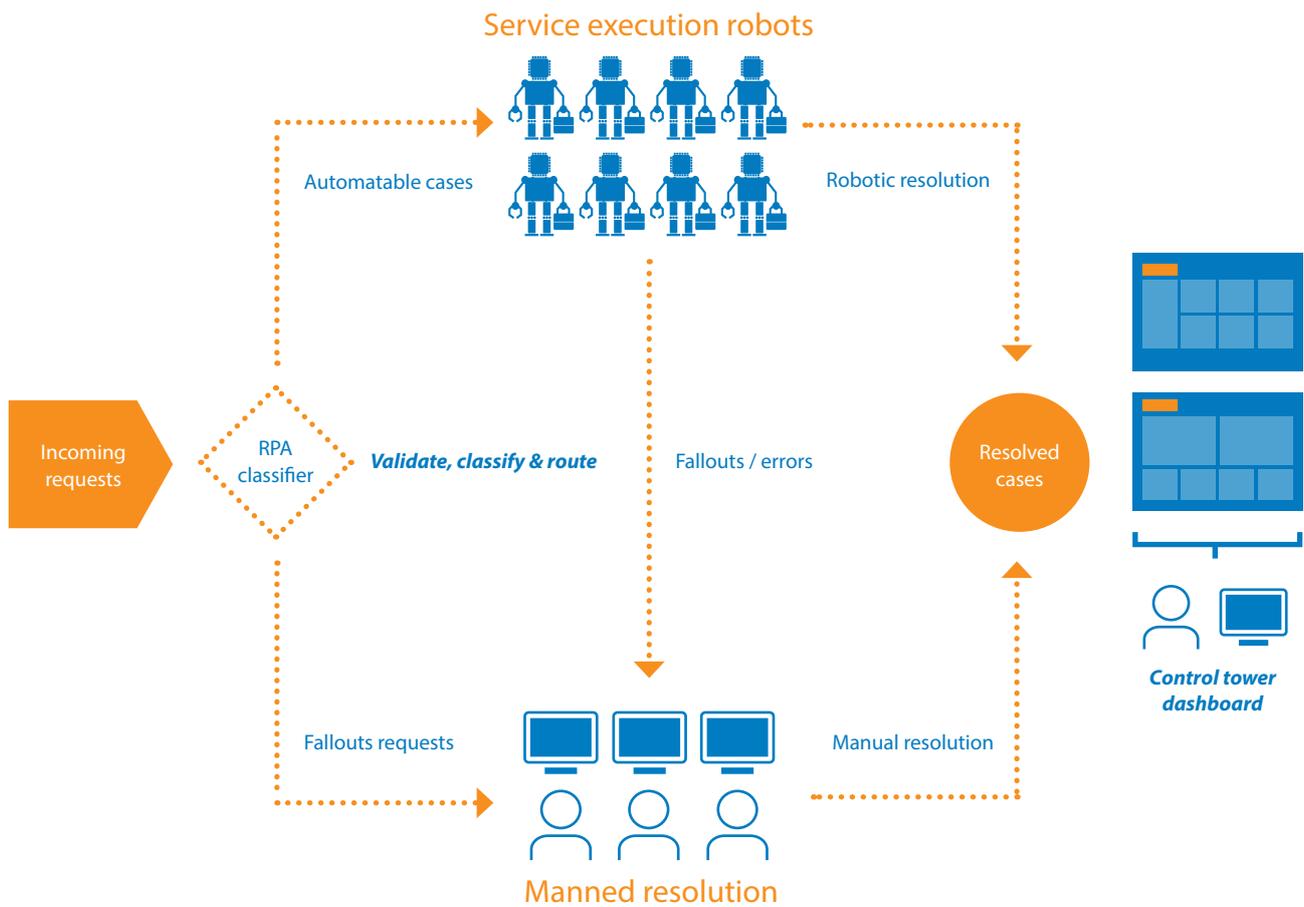
- » Digitization of paper mail and automated assignment or processing
- » Automated IT Service Desk
- » Approve supplier invoices and payments
- » Perform closing operations

# Optimizing the input management

RPA is well suited for processing contacts from customers via paper mail, email or input from other channels. As a first step, non-electronic input gets digitized. Next, RPA works with optical character recognition (OCR) and intelligent character recognition (ICR) software to identify the subject of the request and enhance the correspondence with meta-data, which contains all the relevant extracted information about the document. Based on the meta-data, RPA classifies the request and performs straight-through processing: direct execution of the necessary changes

in the IT system without any human intervention. If the defined rules do not allow straight-through processing for a request, then RPA assigns the correspondence to the appropriate department for further handling. The objective is to end up with as little manual intervention as possible and to structure the quality control process as efficiently as possible. Key criteria to achieving reduced manual intervention are extracting the right data based on the best possible OCR recognition rate and setting the correct execution and assignment rules for RPA. Through RPA, the lead time and average handling time can be significantly reduced. The following diagram illustrates a possible process flow for the described use case:

## RPA MECHANICS FOR INPUT MANAGEMENT



SOURCE: INFOSYS CONSULTING

## 6. Four RPA key success factors

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### 1. Define the problem and the right candidates for RPA

To maximize the value of a potential RPA program, the starting point is the operational understanding of the process and tasks to be automated, including the overall context. Companies should ask the following questions: What is the purpose of the process? Why is it structured in the current way? Who is part of the process and why are they involved? Does the process contain complex tasks or are they repetitive and rule-based? Answering these questions provides clear guidance on whether an RPA implementation is suitable or not.

### 2. Align the automation roadmap with the IT strategy

After defining the scope, there are a number of other critical questions that decision-makers need to ask before implementing robotic process automation:

- » Is there already an RPA tool in the company or is a specific one foreseen?
- » Can the existing RPA tool solve my problems?
- » Does my planned framework align well with the existing IT architecture and the future IT strategy of the company?
- » Does my planned framework setup fulfill the security guidelines?

### 3. Start small, think big

In implementing an automation program, it is best to start small, selecting one or two internal processes that can act as pilots and demonstrate the benefits of this technology. Setting up pilots can be accomplished in as little as eight to twelve week - and with a return on investment that can reduce operating costs anywhere between 40-75%, the potential payoff is significant.<sup>3</sup>

A well-chosen pilot has other advantages in implementing a focused or enterprise-wide automation initiative. As Harvard Professor John P. Kotter argues in his influential book *Leading Change*, being able to demonstrate short-term wins is an essential condition to galvanizing internal support for any successful change management program.<sup>4</sup>

### 4. Plan change management activities

To ensure the best chance at success, RPA needs to be embedded in an overall change management program. Explaining the urgency and business case for altering the status quo increases the likelihood of acceptance.<sup>5</sup> Those employees who are directly affected should be made aware at an early stage of their role during the project and after implementation.

Another part of successful change management is to ensure automation is effectively adopted on the ground by the relevant team or department where implemented.

## 7. Getting started with RPA

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Infosys Consulting helps clients in the insurance industry define and implement their automation roadmap and get a fast start in reaping the benefits of this burgeoning technology. Infosys Consulting's expertise ranges from assessing internal processes for potential application of RPA to selecting the best pilots and evaluating the most suitable tools for implementation. In the later phases of a broader rollout across the company, Infosys Consulting accompanies clients at every step of the journey – especially through the critical change management and adoption phases – to ensure the right value and return on investment can be achieved.

## 8. Conclusion

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The global insurance sector is at a crossroads in terms of meeting the competitive challenges driven by technology, sharper competition and today's economic environment. Robotic process automation offers companies a way to shift the paradigm in their favor. With the right professional guidance, RPA can be implemented relatively quickly for key internal processes, resulting in higher efficiencies, streamlined costs and more time for employees to focus on value-added work. Finally, RPA serves as an essential foundation for future business models as companies evolve upward on the artificial intelligence continuum.

## ABOUT INFOSYS CONSULTING

Infosys Consulting is a global advisor to leading companies for strategy, process engineering and technology-enabled transformation programs. We partner with clients to design and implement customized solutions to address their complex business challenges, and to help them in a post-modern ERP world. By combining innovative and human centric approaches with the latest technological advances, we enable organizations to reimagine their future and create sustainable and lasting business value.

Infosys Consulting is the worldwide management and IT consultancy unit of the Infosys Group (NYSE: INFY), a global leader in consulting and technology services, with nearly 200,000 employees working around the globe.

To find out how we go beyond the expected to deliver the exceptional, visit us at [www.infosys.com/consulting](http://www.infosys.com/consulting).

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