

Robotics and its role in the future of work



Building a better
working world

Contents

2

What is software robotics,
and why does it matter?

4

What exactly
is RPA?

8

What about cognitive
robotics?



10

Robotics in action:
Zurich

12

Why EY for
robotics?

13

Next steps and
contacts

What is software robotics, and why does it matter?

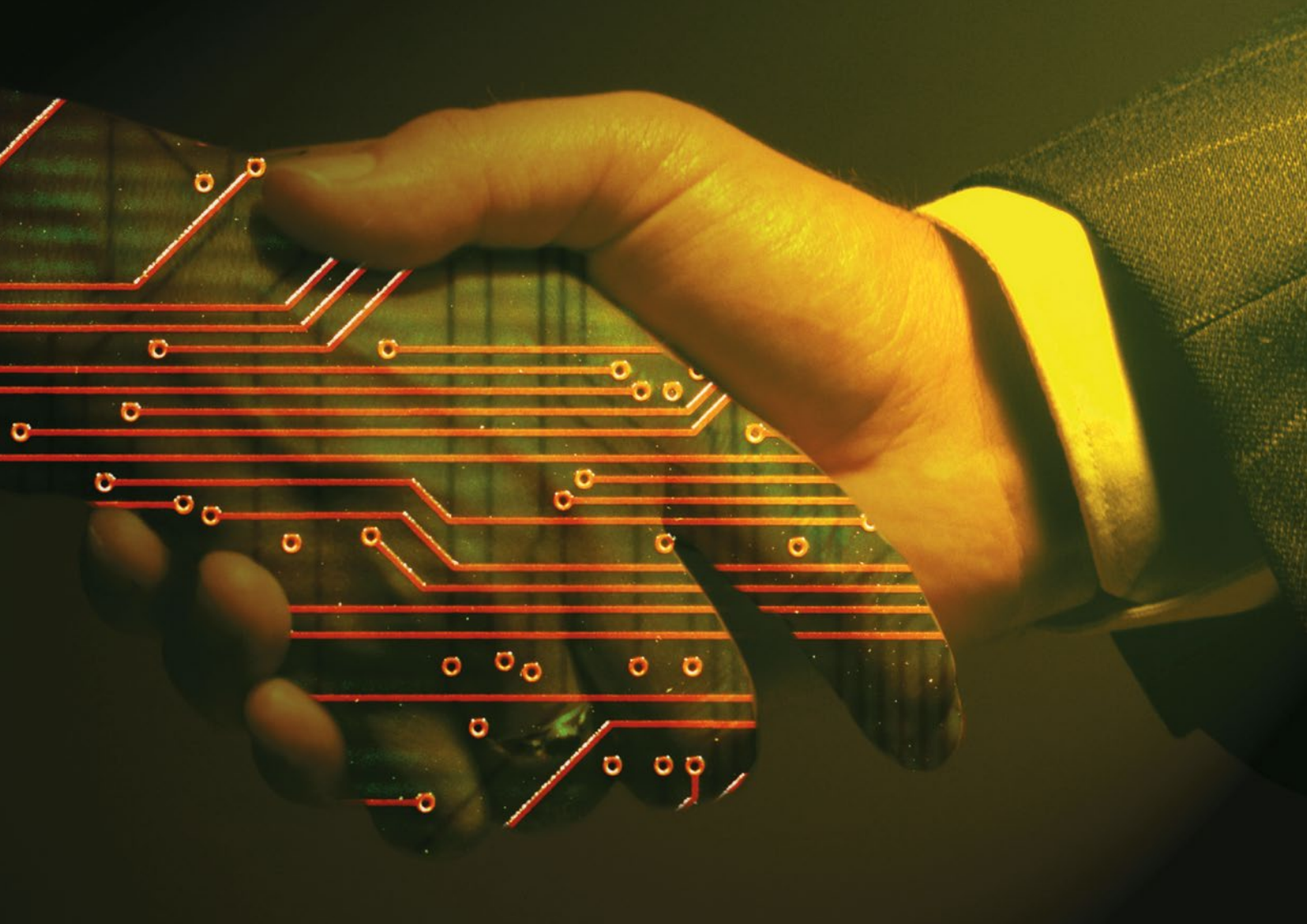
Software robotics has received a lot of attention in the last year. That includes from both popular press speculation about the impact on jobs¹ and the analyst press discussing the potential impact on offshoring and outsourcing.²

The promise of software robotics is to deliver a solution that can rapidly automate manual back-office and customer-facing processes, making them faster, significantly more cost effective, and improving consistency and regulatory compliance, all with a return on investment (ROI) typically in less than one year.

Many leading banks, insurers and wealth and asset managers have successfully piloted robotics solutions, but to date relatively few have succeeded in industrializing the benefits. However, the size of the prize on offer from doing so, both in terms of cost savings and service transformation, places accelerating and industrializing software robotics firmly on the agenda for the C-suite of most financial services groups.

¹ "The economic myth of robotics and the robot job-ocalypse" - FT.com, August 19, 2015.

² "Intelligent Machines: The jobs robots will steal first" - bbc.com, September 14, 2015.



A complementary workforce

Rather than representing a threat to the workforce, EY's extensive experience suggests that robots are best thought of as a complementary workforce working hand-in-hand with people to help them improve their performance and focus their time on other, higher priority tasks, strategy and innovation. Robots can enable people to work better, smarter and more creatively, expanding the art of the possible.

As one of the largest consultancies dealing with robotics, EY's practical experience and knowledge comes from delivering over 100 projects globally. This is one in a series of papers based on our practical hands-on experience with robotics, and the lessons we have learned. In this paper, we explain what robotics is and explore its potential. The first paper in the series examines the common issues that we see clients facing as they move forward with robotics projects and the third in the series will cover advanced robotics.

What exactly is RPA?

Robotic process automation (RPA), also known as software robotics, is the use of a new class of software to automate business processes at a fraction of the cost of traditional solutions, without the need to change current IT systems.

RPA works by replicating the activities that people currently undertake, using existing core systems, legacy applications, accessing websites, and manipulating spreadsheets, documents and email to complete tasks. Using RPA software involves mapping out current or new processes, linking it to existing applications, and then scheduling them to run on one or more robots whenever required.

There are now many vendors in the market and more arriving all the time. As well as the more well-known vendors, there is a constant stream of new entrants and the addition of RPA features to traditional BPM solutions.



The individual elements of RPA software are not new. However, it's the combination of all the features into a single, mature package that works with existing systems which, in many cases, creates a compelling alternative to core-platform integration or replacement. And not only can RPA reduce manual operations costs by 25% to 40% or more, it does this while improving service and compliance, and typically provides a return on investment in less than a year.

Because the software replicates human activity, it can be thought of as a set of software "robots," forming a virtual workforce available 24 hours per day, with full audit and 100% accuracy.

In fact, the concept of a "virtual workforce" has proven to be a useful perspective from which to approach software robotics, as it emphasizes business rather than IT control, and provides for rapid adoption through existing compliance and risk management frameworks.

In addition to "standard robotics," there is also an increasing interest in "intelligent robotics" – the use of machine learning and artificial intelligence approaches to allow automated processes to self-adjust and improve, and to tackle subjective decisions as well as following simple rules. This extension offers both improved, data-driven decision-making at speed, and increases the scope of manual work that can be automated. We see two different approaches to intelligent robotics. First, use case specific solutions (such as intelligent document scanning for handling paper, or speech-recognition systems for call centers), and second, the combination of analytics and machine learning platforms with RPA software. In the latter case, the analytics platform is the "brain," with the RPA software providing the "body" of the robot, able to collect the information required and take the resulting action.

RPA software distinguishing features:

-
- 1. Purpose** Designed to carry out business processes, replacing manual activity

 - 2. Approach** Usual or “code free” interface to define automated process, linking to one or more systems through user interfaces. No (or limited) technical integration required.

 - 3. Usability** Suitable for IT-literate business users and operations teams, rather than IT development or integration teams

 - 4. Scalability** Runs in a data-center, and can support high-volume, 24x7 operation, with scheduling, monitoring and reporting

 - 5. Compliance** Full audit of both process definitions and individual tasks executed, and full security model supporting segregation of duties

Digital and robotics: a powerful combination

As outlined above, the gains from automation can be considerable. But much more is possible when robotics and digital are brought together. RPA needs to work with content that is available within a system. So, for example, it can only automate a claims process once the initial information has been dealt with by one or more agents. That might involve a number of conversations and the manual input of information from supporting documentation. But if those preliminary stages are delivered via digital channels that maximize the extent of customer self-service, robots can get to work faster and across an entire end-to-end process. In other words, **digital and robotic automation can deliver an overall solution that is far greater than the sum of its parts.**

The return on investment that the combination can deliver will significantly outstrip those available from robotics alone – in fact by as much as two-and-a-half times. As robotics take on greater responsibility for an end-to-end process and minimize or even eliminate altogether the amount of human intervention required, potential ROI rises sharply.

Connecting digital with robotics addresses some of the largest inefficiencies in current processes.

It can achieve this in a number of ways, working with any legacy system and, with a digital adapter sitting on top of the robotics, can in fact digitize whole new areas of business process. And this is where EY sees the next big wave of opportunity. Digitizing the entire estate is far too costly a prospect for most businesses to even contemplate. For example, insurers are likely to be able to digitize support for only in the region of just 25% of their current products and services. But the combination of robotics with digital expands the scope across a far wider range – and therefore the available savings too. And even where it's not possible to digitize certain elements of a process, using intelligent OCR technology can achieve comparable results.

As an illustration, EY created a proof of concept for a leading insurer that showed how the combination of digital and robotics could shrink an existing claims process that took 10 days on average to complete down to a single day. And it's also an application that EY is introducing to its own business, using robotics and digital in a pioneering new way to manage work within our back-office, shared-service functions.

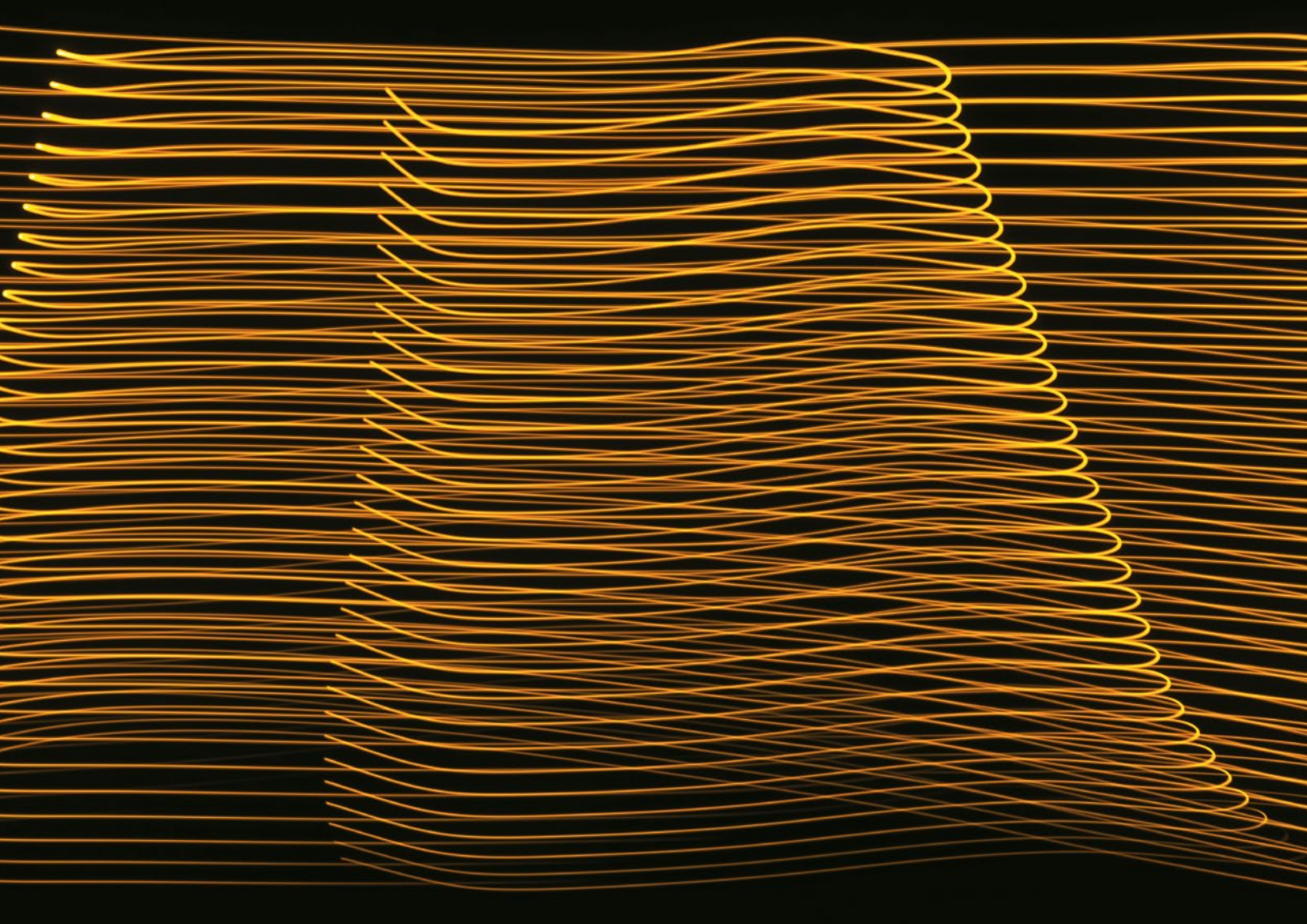
However, while combining digital and robotics is an essentially simple concept, it requires care in realization to confirm that appropriate digital service levels, cyber controls and volumetric requirements are met, without compromising the agility of the core robotic capability being created within the business.

What about cognitive robotics?

There is also a lot of focus at global tech conferences on the potential of cognitive robotics, with companies putting what were high-concept ideas, like driverless cars and self-navigating drones, into production. While the progress being made in these projects is very impressive, the costs are significant and they expose some interesting challenges.

Relating this back to financial services, the equivalent would be self-optimizing customer service, loan pricing, financial advice, or claims or complaint handling. Designing a statistical optimization or machine-learning approach to get the best outcome is relatively straightforward. But designing and monitoring one that aligns to legal, regulatory and ethical conduct requirements can be more challenging. While natural language interfaces and sentiment analysis can understand human emotion, the ability to naturally converse and empathize with perfect accuracy is still a work in progress.

But there are clearly areas where a degree of learning or “cognitive” technology offers a significant advantage, such as processing of paper documentation, understanding speech, detection of fraud, and so on.



In these areas, there are three standard approaches:

- 1. Adoption of a cognitive niche product.** This is common for highly specialized situations like voice processing and natural language interpretation, or for analysis of legal contracts.
- 2. Adoption of a targeted solution,** such as a generic document scanning and intelligent character recognition solution for processing a variety of paper documents.
- 3. General cognitive robotic platform,** combining an analytics or machine learning platform with the robotics tool as described above.

At the moment, cognitive services may have a substantially higher cost than standard RPA. As more than one type of cognitive technology may be needed to address business issues, this may increase costs further. So, for the time being we believe that good qualification of opportunity and business case are required to achieve an acceptable return on investment. But, the direction of travel is obvious with robotics and cognitive services being integral to future success.

In our paper, *Get ready for robots: why planning makes the difference between disappointment and success*, we'll look at some of the more practical challenges associated with using RPA. That includes identifying use cases, common problems encountered in implementing RPA and some pointers from EY's experience of working on successful projects in financial services and insurance.

Robotics in action: Zurich

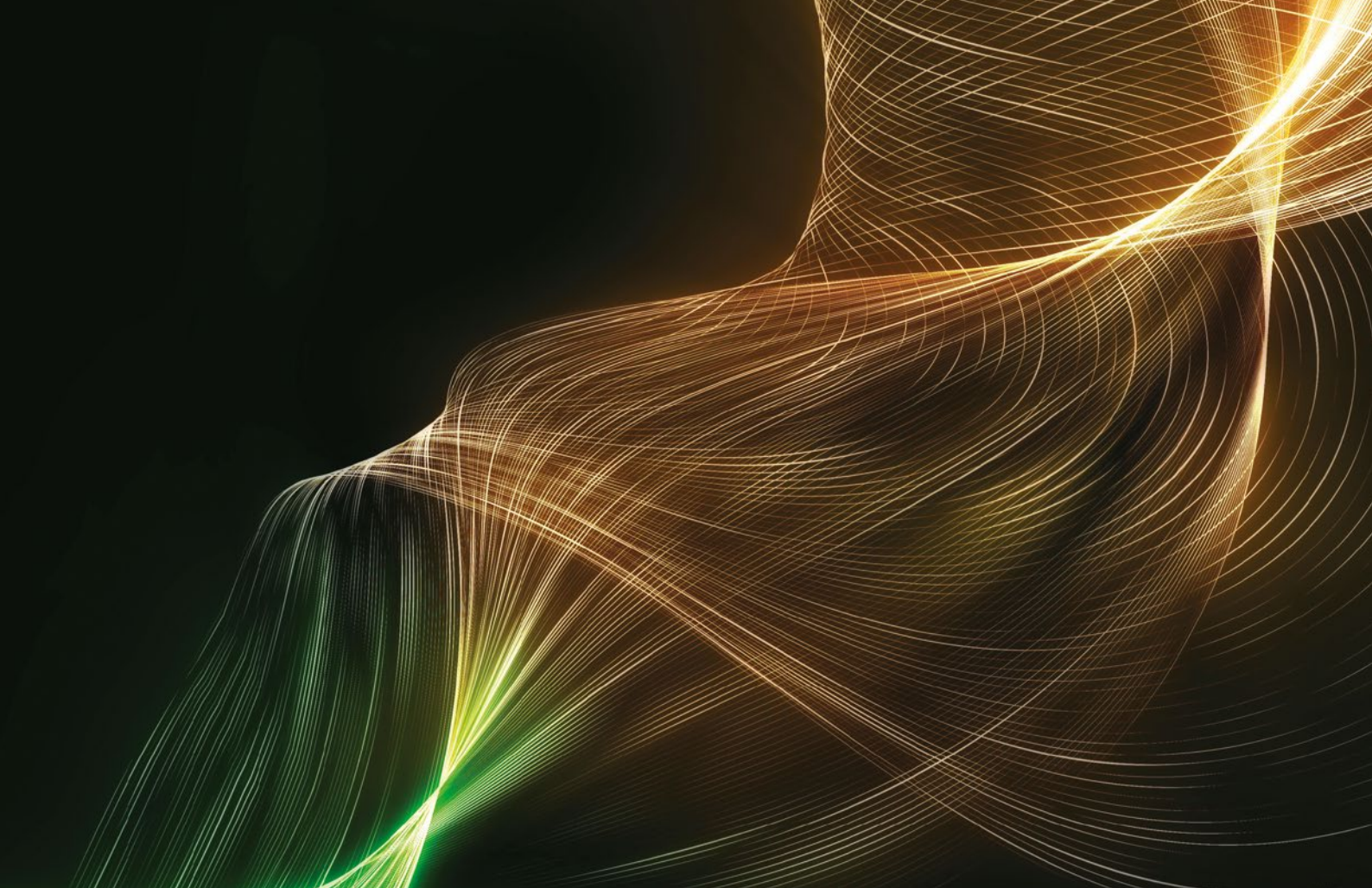
EY has been working extensively with Zurich, the leading multi-line general insurance and life insurance provider, to implement robotic process automation as a key element of Zurich's goal to enhance service and achieve their commitments to more than \$1b of cost improvements by 2018.

Starting with a pilot proof of concept in Zurich UK life and pensions in December 2014, EY and Zurich worked together to deliver multiple projects across Zurich and create a federated robotics center of excellence for Zurich.

The initial pilot was designed to demonstrate the technology solution and create a business case for full implementation within life operations. In just six weeks, EY was able to show that RPA could halve the cost of some existing processes, provide a significantly enhanced customer service and accelerate the delivery of change.

We helped Zurich use an agile approach to deliver the pilot into production within a further six weeks, and to continue to identify and implement new opportunities, releasing 25% capacity within the operational team. The success of this initial project has spread rapidly across the business, with deployments across their general and life insurance businesses, and further projects planned.

A key success has been the creation of a federated robotic center of excellence staffed primarily from released operational staff, integrated closely with IT and business change teams. The center of excellence is itself a model for agile delivery within Zurich, delivering new automated processes on a two- to four-week release cycle.



Proof-of-concept

- ▶ Six-week engagement in corporate savings that proved the technology and created a case for full implementation
- ▶ Key benefits:
 - ▶ 51% reduction in cost for processes automated
 - ▶ Identified opportunity to release up to 25% of operational team capacity
 - ▶ Improved service
 - ▶ Accelerated delivery of changes on existing platform development road maps

Implementation within global life

- ▶ Creation of Zurich Life Center-of-Excellence, and realization of identified benefits within life corporate savings
- ▶ Continued expansion within UK life
- ▶ Successful pilot in other country life business leading to a business case assessment
- ▶ Dialogue with global general insurance representatives, global claims and group finance around robotics solution

Expansion into general insurance

- ▶ General insurance implementation
- ▶ Group finance project
- ▶ Deployment within general insurance claims

Further growth

- ▶ Establishing regional virtual infrastructure to support enhanced efficiency
- ▶ Projects initiated, implemented or planned in other countries
- ▶ Zurich continues to explore further opportunities to extend benefits within existing and new markets, group functions, and through integration with additional technologies, including artificial intelligence and digital

Jan-Feb
2015

Jun
2015

Jan
2016

Dec
2016



ZURICH

Why EY for robotics?

EY has a global robotics capability with a proven track record of successful implementation.

With more than 1,000 robotics professionals having delivered more than 100 projects globally, our approach using unique accelerators and agile delivery methodologies has helped our clients develop and sustain robotics solutions that deliver cost savings and service improvements across countless processes.

Our approach is differentiated in three key ways:

1. Focused on the business

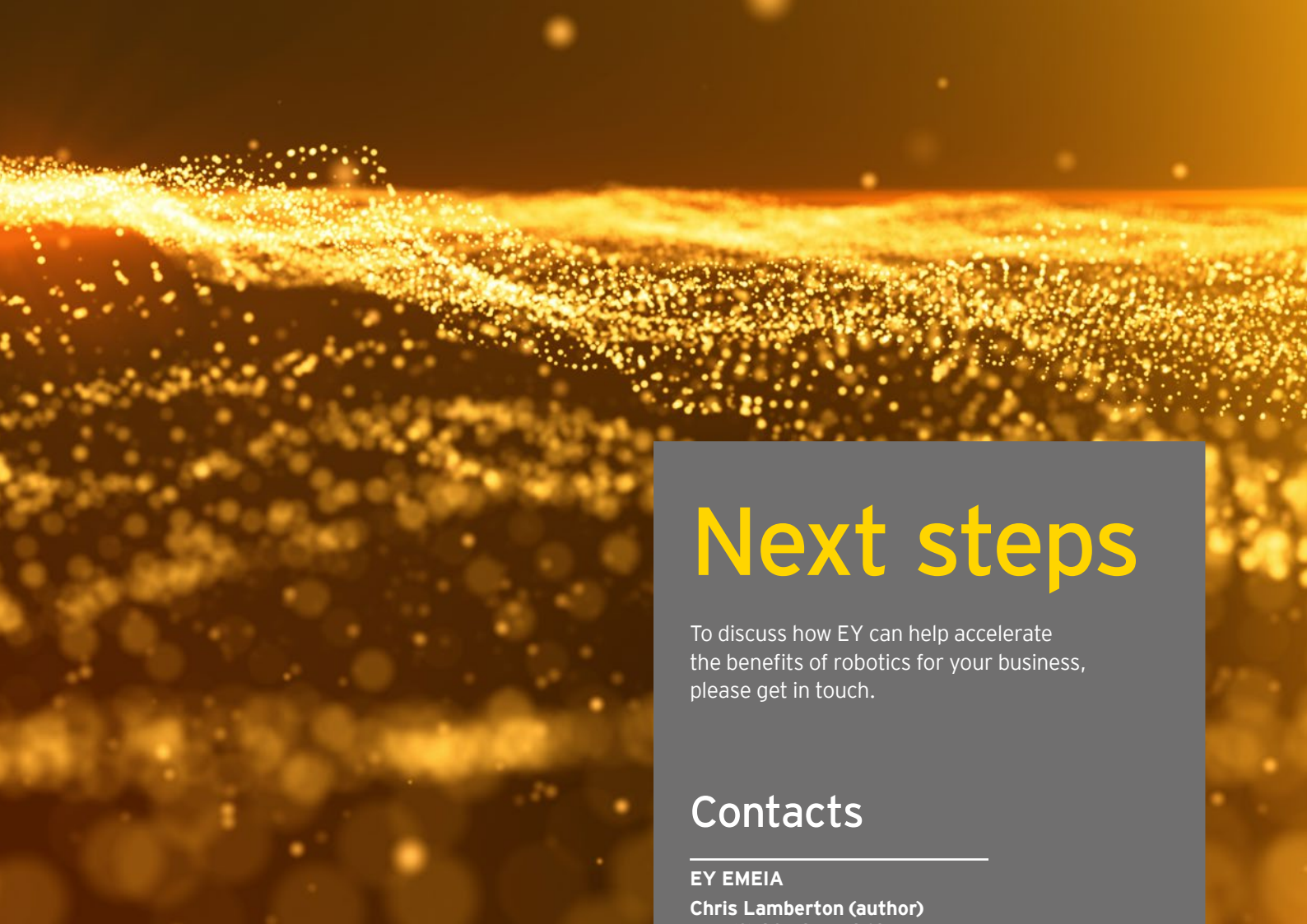
We take a business-led, IT-supported, approach that delivers:

- ▶ Business value – with the business driving automation to identify where real benefits can be found
- ▶ Speed to delivery – because the business knows and understands the processes and can therefore automate them faster
- ▶ Business agility – continuously improve automated processes
- ▶ Unique tools and methods – include agile delivery, opportunity assessment framework and digital integration
- ▶ People support – through “automation anxiety” and how robots can facilitate better working environment for staff

2. Proven methods

We have a number of live implementations and a growing pipeline:

- ▶ Successful projects delivered in 26 countries worldwide including the UK, US, India, Germany, Switzerland, Sweden and Australia
- ▶ Robust methodology and a proven set of accelerators developed directly from real client experience
- ▶ Trained resources with a wide knowledge of business processes and technology
- ▶ EY is the only organization to be certified as “Gold” for its delivery capabilities by one of the RPA market leaders, Blue Prism



3. Client sustainability

We help clients embed and sustain robotics in their business, by:

- ▶ Training their staff – training and mentoring business teams to develop and maintain robotics processes and manage a robotics workforce
- ▶ Defining a new operating model that supports the changes and new approaches required to manage a robotics workforce
- ▶ Supporting global consistency through a defined methodology that ensures consistent and accelerated delivery of robotics projects across all geographies

Next steps

To discuss how EY can help accelerate the benefits of robotics for your business, please get in touch.

Contacts

EY EMEA

Chris Lambertson (author)
+44 (0) 20 7951 1963
clamberton@uk.ey.com

EY Asia-Pacific

Andy Gillard
+61 (2) 9248 4096
andy.gillard@au.ey.com

United States

George Kaczmarczyk
+1 703 747 1887
george.kaczmarczyk@ey.com

EY | Assurance | Tax | Transactions | Advisory

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

EY is a leader in serving the financial services industry

We understand the importance of asking great questions. It's how you innovate, transform and achieve a better working world. One that benefits our clients, our people and our communities. Finance fuels our lives. No other sector can touch so many people or shape so many futures. That's why globally we employ 26,000 people who focus on financial services and nothing else. Our connected financial services teams are dedicated to providing assurance, tax, transaction and advisory services to the banking and capital markets, insurance, and wealth and asset management sectors. It's our global connectivity and local knowledge that ensures we deliver the insights and quality services to help build trust and confidence in the capital markets and in economies the world over. By connecting people with the right mix of knowledge and insight, we are able to ask great questions. The better the question. The better the answer. The better the world works.

© 2017 EYGM Limited.
All Rights Reserved.

EYG no. 03038-174Gbl
ED none



In line with EY's commitment to minimize its impact on the environment, this document has been printed on paper with a high recycled content.

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

ey.com