

SIFM

Robotic Process Automation (RPA)
Finance discussion

September 2018

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Automation at scale and key success factors

“We stand on the brink of a technological revolution that will **fundamentally alter the way we live, work and relate to one another**. In its scale, scope and complexity, the transformation will be **unlike anything humankind has experienced before.**”

Source: **World Economic Forum, 2016**



Headlines capturing attention



The automation revolution is happening now



By **2021**
the RPA market will reach
\$2.9b.

Adoption of RPA is still in early days and in **2018** the worldwide market for RPA tools is at

\$1.5b. and growing at
50% a year

Gartner



Based on scenario modeling, we estimate automation could raise productivity growth globally by **0.8 to 1.4%** annually.

McKinsey& Company

AI-enabled automation of knowledge work could cut employment costs by
\$9t by 2020.

Everest Group



There will be more than
4m robots doing office, administrative and sales-related tasks by
2021.

Forrester

Disrupt or be disrupted?

Headlines capturing attention of executives everywhere

30%–40%

of existing business process services are likely to be impacted by robotic process automation (RPA).

Gartner



RPA is estimated to lead to **30%–35%** reduction in entry level roles and increase mid level roles.

Everest Group

Cost reduction of **35%–65%** for onshore operations and 10%–30% for offshore operations.

Institute for Robotic Process Automation

Estimated that **85%** of a typical firm's 900+ processes can be automated, and **110m to 140m FTEs** could be replaced by 2025.

McKinsey & Company

Intelligent automation is a spectrum of technologies, computational technologies and automation approaches

RPA

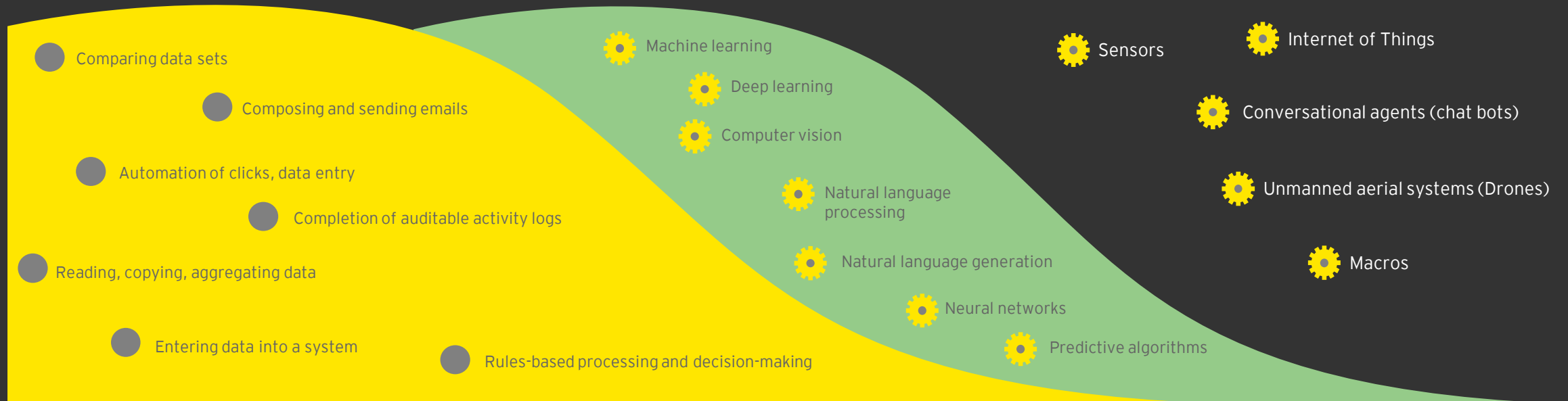
A software solution that runs unattended, working like a virtual employee with legacy applications performing repetitive tasks reliably at the user interface level

Artificial intelligence (AI)

Software-driven intelligence that mimics human cognition, behavior and thought processing to replicate more complex tasks that include professional judgment and historical knowledge

Other

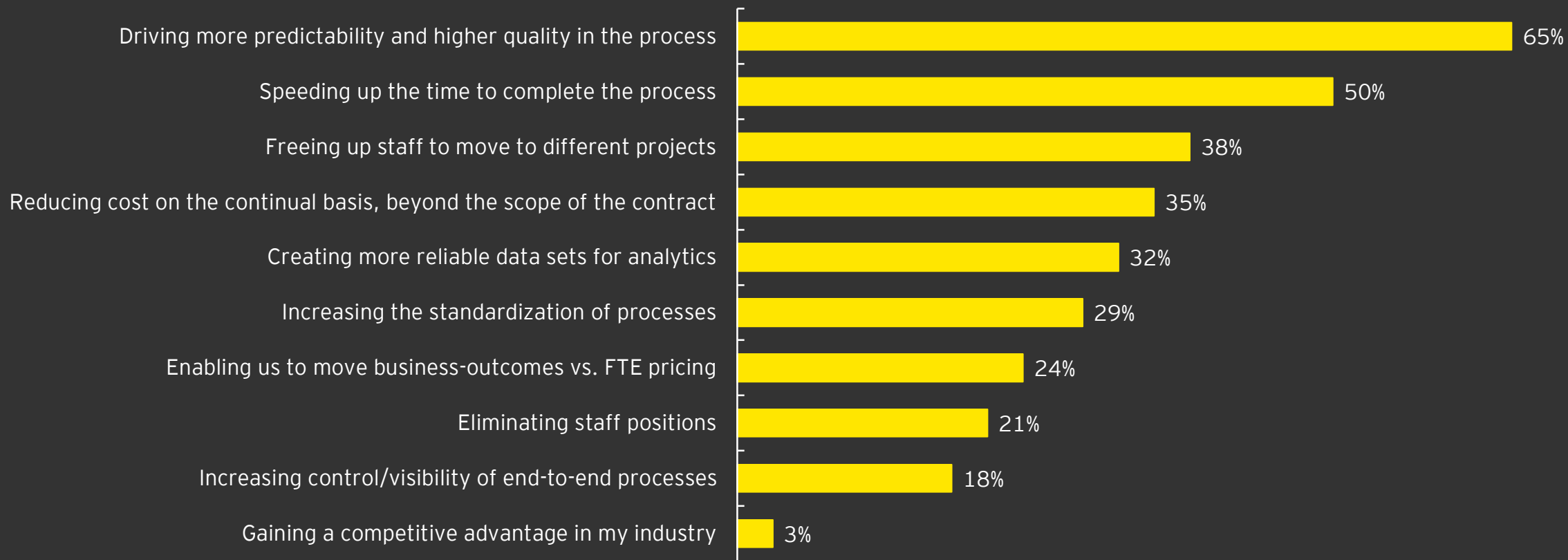
Complementary technologies, tools and architectures that can be combined with other layers on the spectrum to automate a business process or human experience



RPA C-suite top three survey

Companies are focusing on quality, predictability, speed and value-add

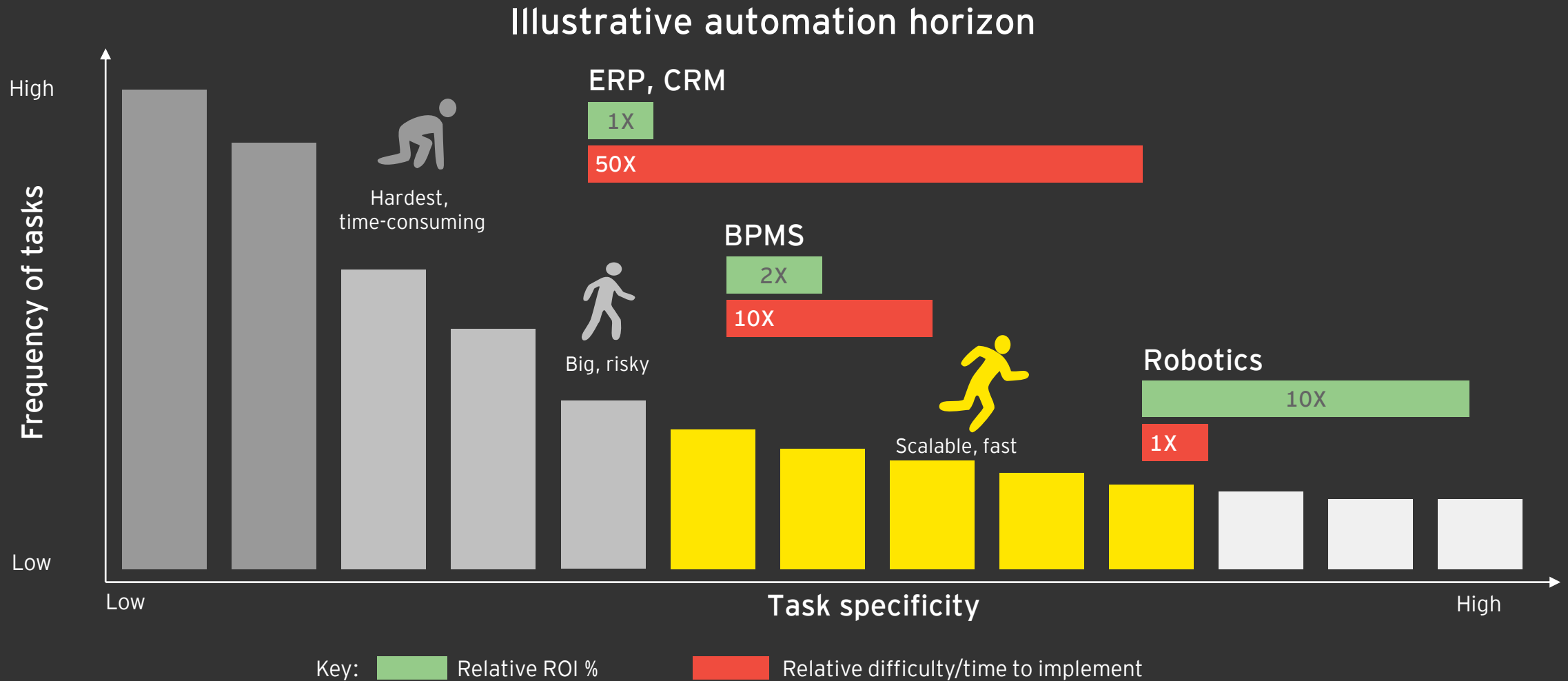
What do you believe to be the most important components of the value proposition for robotic process automation?
(Choose top three)



Source: HfS survey of 800 C-suite executives

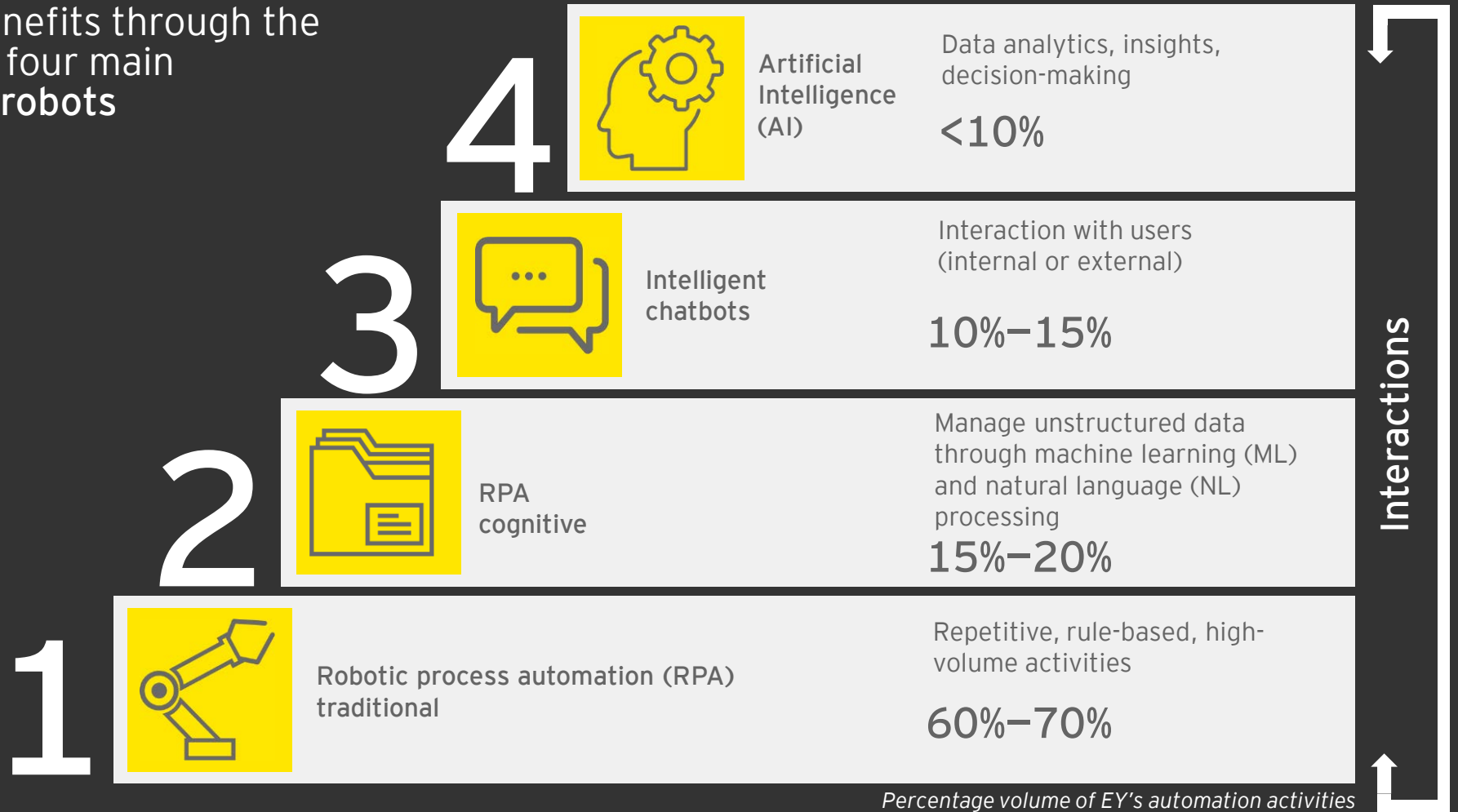
The compelling value proposition for RPA

~10X ROI coupled with ~50X less difficulty to implement



Automation is the key to transforming cost of delivery

Delivering substantial benefits through the powerful combination of four main generations of **software robots**



What is robotic process automation?



Imagining what is possible with RPA

How RPA is applied in the HR on-boarding process – video

Imagining what is possible with RPA

Insurance claims processing video

Automating the insurance claims submission process improving customer experience and reducing time by 90%

<https://vimeo.com/145543985>

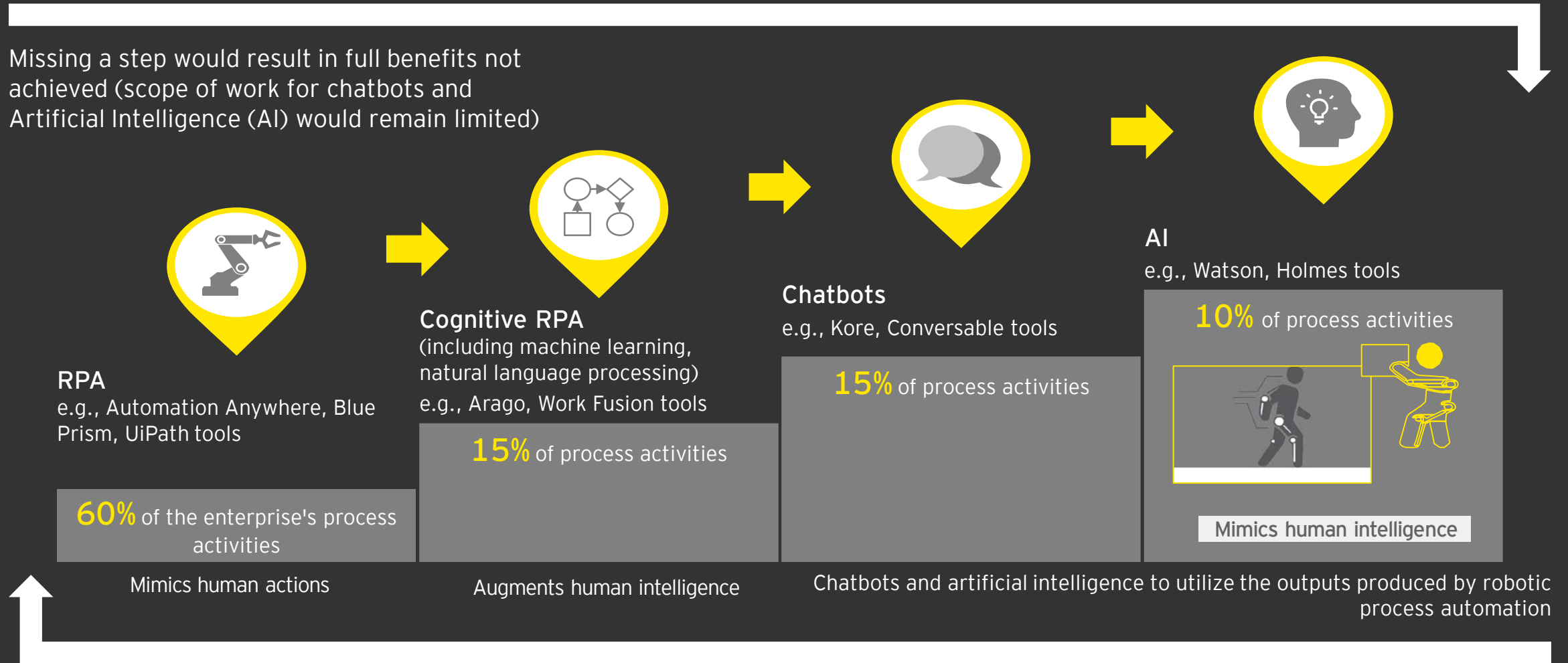
Imagining what is possible with RPA

Premiums Tax processing – video

The golden journey to digital operations

RPA is a foundation for artificial intelligence: The first generation where ~60% of the value lies

Missing a step would result in full benefits not achieved (scope of work for chatbots and Artificial Intelligence (AI) would remain limited)



What is robotic process automation?

How does it work?

What is

RPA?

RPA is the use of a software robot (a program) that **replicates the actions of a human being interacting with the user interface of a computer system.**

The Institute for Robotic Process Automation (IRPA) defines RPA as the application of a technology. This technology allows employees in a company to configure computer software or a robot to capture and interpret the existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems.

RPA is integrated in an existing IT infrastructure



As a renewal of the existing IT landscape is not required, a high level of automation can be reached without major effort. RPA uses established control mechanisms and can communicate with all systems. Therefore, no interface has to be created.

RPA is a software



RPA is a computer software that runs repetitive, rule-based processes. The RPA software is trained based on functional specifications and can be adjusted at any time.

RPA simulates an employee

The software robot has access to diverse applications with an ID or a password. The software robot can gather information or change data. Consequently, business and administrative processes can be fully automated.

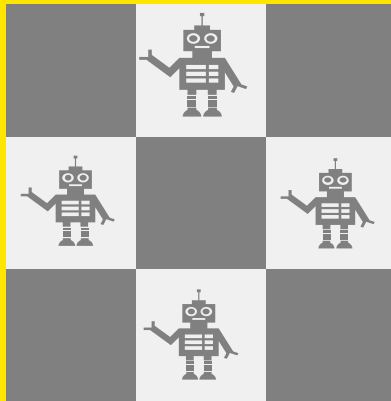


RPA features, benefits and observations

Low risk Non-invasive technology

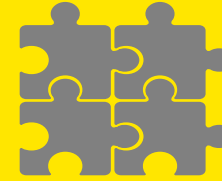
Overlaid on existing systems and integrated with existing data minimizing disruption to IT strategy and architecture. RPA technology can begin with simple rules based tasks and scale to more sophisticated algorithms and machine-learning functions as the organization matures.

RPA often “fills the gaps”
between existing systems



Accuracy

Double digit reductions in error rates



Consistency

Identical processes and tasks, eliminating output variations

Cost savings

**Ranging from
20–60%** of baseline
FTE cost

Right shoring

Geographical independence reduces need to offshore jobs while still delivering cost savings



Productivity

Freed up human resources for higher value-added tasks.

Opportunity focused

RPA can be focused on only those areas where significant opportunity exists. Does not require enterprise adoption.



Reliability

No sick days, services are provided 365 days a year

Audit trail

Fully maintained logs essential for compliance



Retention

Shifts human effort toward more stimulating tasks

Scalability

Instant ramp up and down to match demand peaks and troughs



ROI

Typical RPA projects include multiple functional “pilots” but the program is completed in 9 to 12 months with an ROI < 1 year

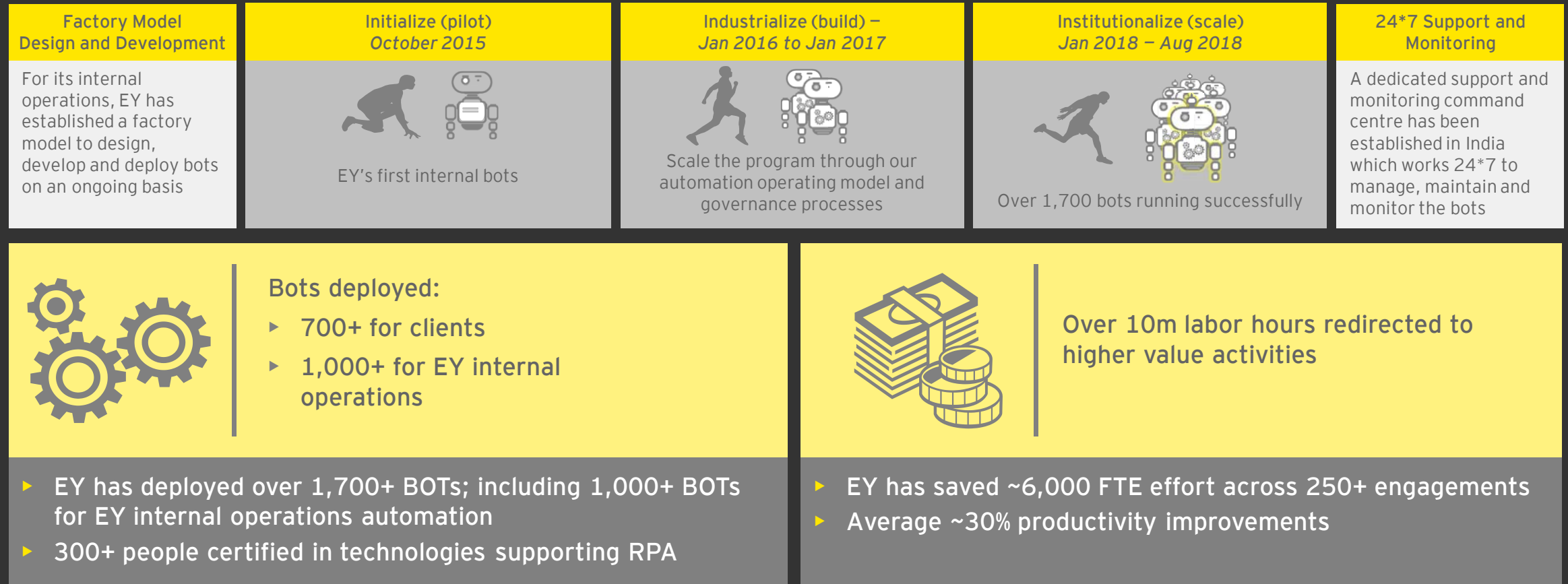
Our internal RPA and intelligent automation journey at EY



Internal experience with intelligent RPA

Our experience and capabilities are based on our own automation journey

We currently have over 1,000 RPA processes at EY that help improve customer experience, quality of services and efficiency. We have established a factory model for design and development, and a robust support infrastructure to maintain and monitor the bots.



Why we embarked on our intelligent automation journey

Our key strategic drivers

We saw an opportunity to disrupt and be front-runners on the 'intelligence' journey



Talent retention: more intellectually challenging work leveraging the real potential of our talent to focus on greater value for our clients

Client experience: greater insights and opportunities to provide more value from the data, improve responsiveness and client satisfaction



Cost reduction: typically one-third of our offshore labor/Shared services costs or lower, reduced training and onboarding costs

Insight into data to drive action: visibility over process and detailed steps and time taken – not a black box to help drive better decisions



Agility: increase our capacity to handle high transaction volume in peak periods

Quality and standardization: increase in accuracy with on-time delivery – faster turnaround time and increased standardization

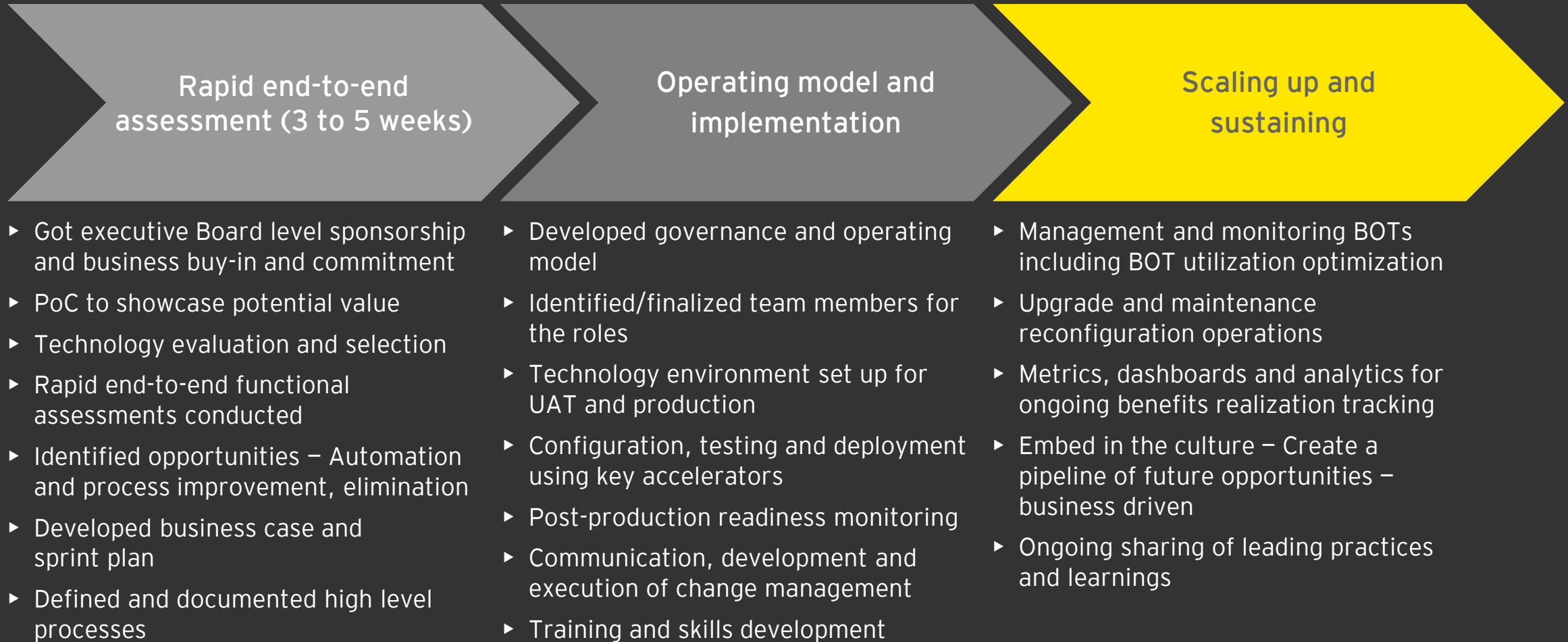


Transparency and compliance: fully maintained audit trail for compliance; enhanced controls and tracking and transparency

Flexibility and reliability: 24/7 global operations and across functions and greater reliability



We got started on the journey with rapid feasibility assessments of key functional areas



The four must do's and key questions to ask during the journey

1. Business engagement

How will RPA enables our sub-service line to achieve the EY Vision 2020 and our long-term business strategy?



Visioning

What will be our key success metrics – cost savings, efficiency, improved client service, compliance so that we can communicate them to our people?

Have we identified leaders that need to be aligned and are they aligned on the vision ? Defined their roles and freed up their time?

What stakeholder groups do we need to engage and in what sequence to manage the changes triggered by Intelligent Automation/RPA?

How do we prioritize by modeling out the practices and processes in scope for RPA?



Current state assessment



Business case



Leadership alignment



Stakeholder engagement

Change impact and readiness assessments



How will RPA impact roles and responsibilities? Career paths? What are the internal mobility options that should be articulated to our stakeholder groups?

How do we implement and communicate RPA successes to drive support and continuous engagement and ideas?

2. Business readiness

Organization and talent realignment



Do we need to realign the organization, roles and responsibilities for maximum value from RPA?



Training and performance support



Performance monitoring



Implementation

3. Business adoption

How do we monitor performance and embed IA goals in performance management to ensure value? Have we implemented a post production readiness assessment?

What training and support do our people need to be successful? What training do we need to provide to our BOT Controllers?

4. Rapid and sustainable benefits realization

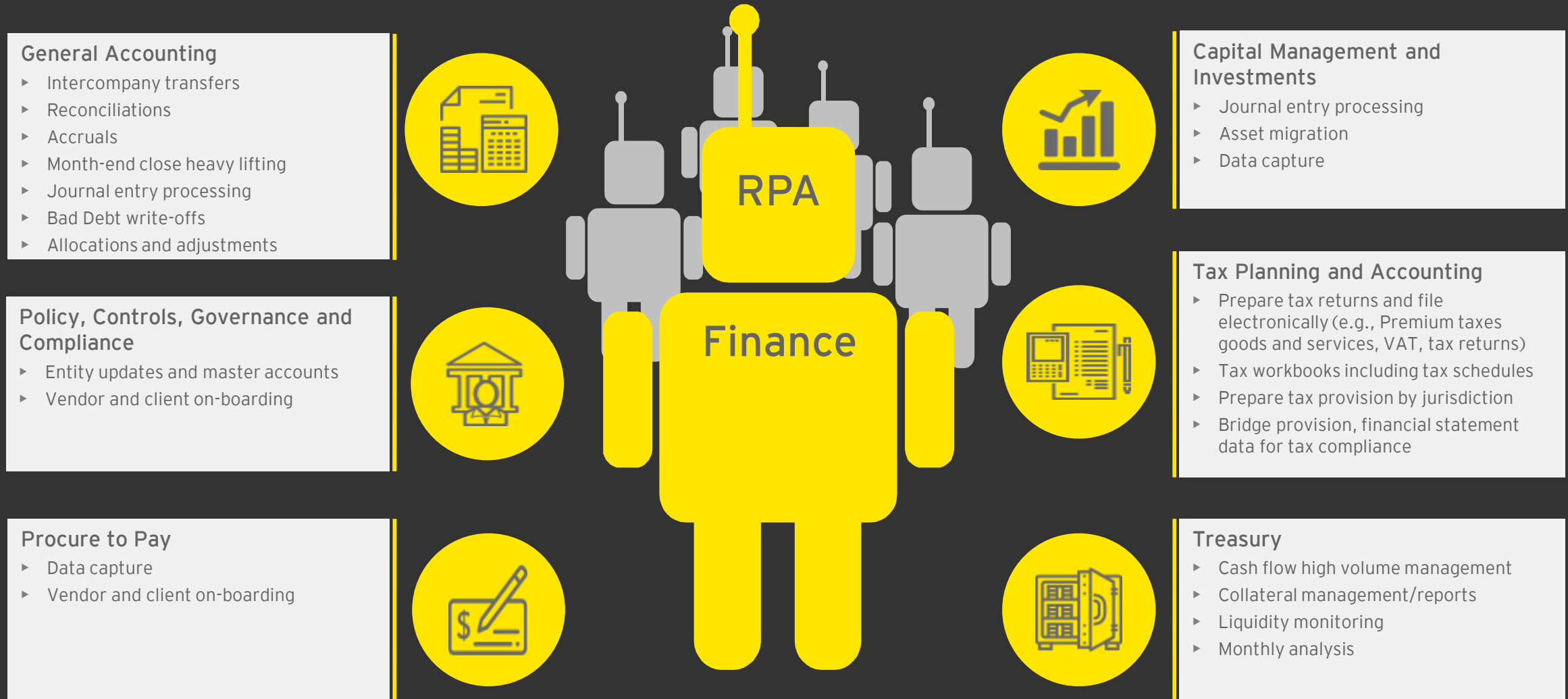


RPA in finance and insurance and case studies



How RPA fits into finance?

RPA uses and hotspots



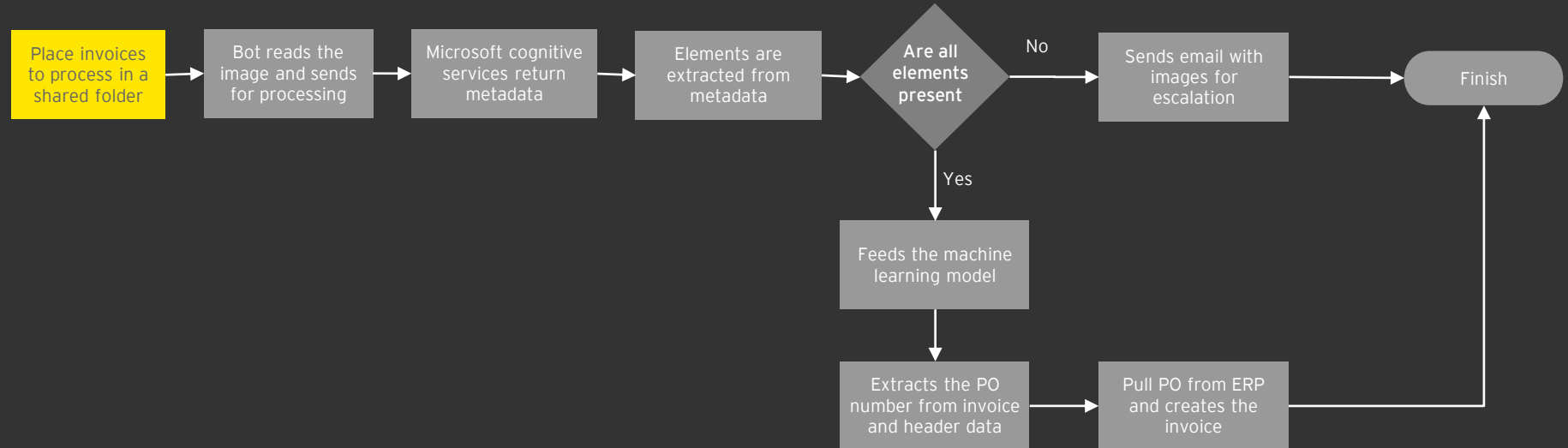
Finance case study: invoice processing video

Creation of a new vendor – 9 minutes down to under 2 minutes per transaction



Automated process

Process time: Nine minutes per invoice



Process overview and RPA benefits

Process time: < two minutes per invoice

Benefits realized:

- ▶ 80% automation of 20k invoices monthly.
- ▶ Estimated capacity release of 65%.
- ▶ Faster and more accurate processing of data (>90%).
- ▶ Machine learning model improves accuracy over time.
- ▶ **POV automation – one week; est. time to production – six to eight weeks.**

Process overview:

- ▶ Model uses Blue Prism plus MS Cortana (text analytics plus computer vision plus machine learning).
- ▶ Robotics used to process invoices.
- ▶ Bot processes the invoice image to process the information in Microsoft cognitive services and extracts the different elements based on a configurable document profile.
- ▶ Once the elements are extracted, the bot will pull up the purchase order (PO) in the ERP and create an invoice, updating header data.

● Manual process

● Automated

Insurance companies are looking at these high opportunity areas for RPA in Finance

There are several areas within a typical finance organization that can quickly benefit from RPA, depending upon the level of existing automation, tools employed and manual activities

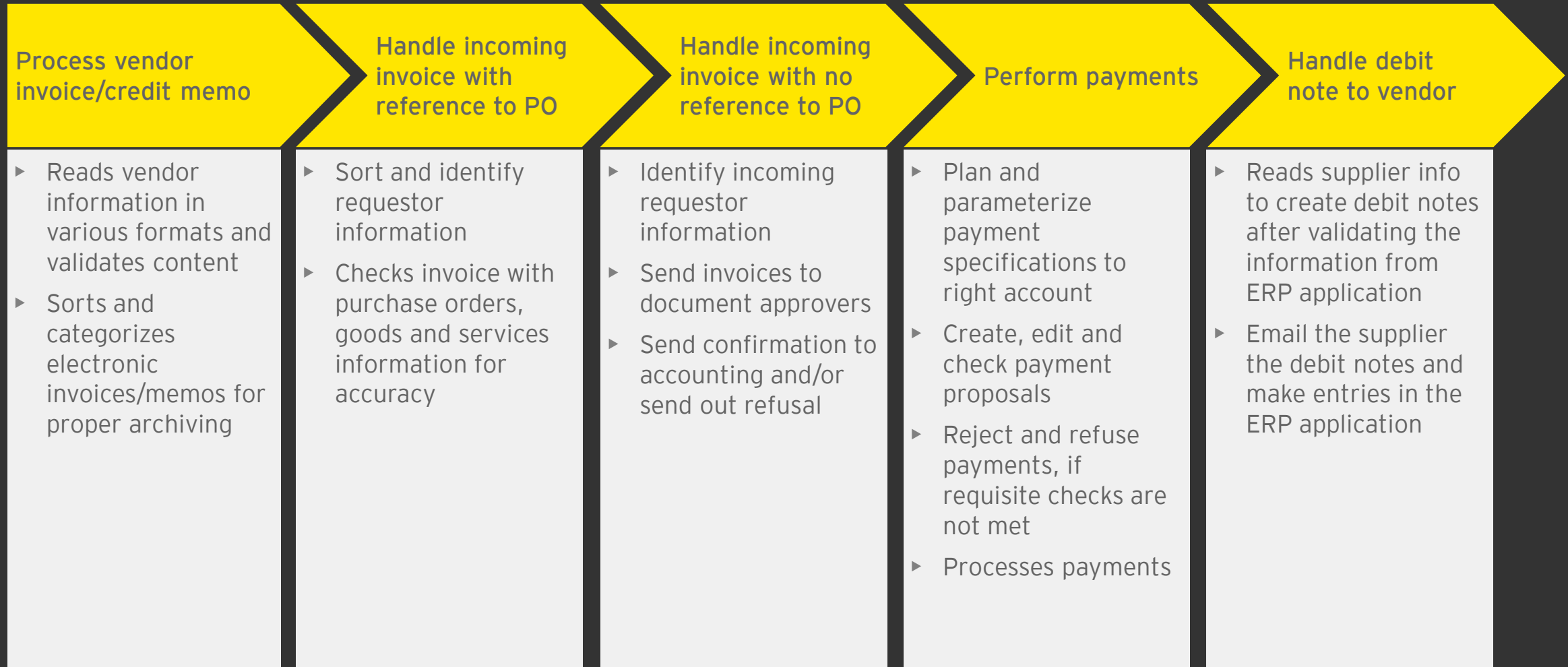
Operational accounting	Procure-to-pay	General accounting	Financial and external reporting	Performance and management reporting	Budgeting, planning and forecasting	Policy, controls, governance and compliance	Internal audit	Treasury	Capital management and investments	Investor Relations
Loan accounting	Strategic sourcing	Chart of accounts maintenance	Financial Reporting	Responsibility reporting	Strategic planning	Accounting policy and gov.	Risk and control Framework	Debt/equity management	Capital planning	Stakeholder ID and analysis
Investment accounting	Vendor administration	Allocations and adjustments	Regulatory Reporting	Org profit reporting	Annual budget	Regulatory policy and Gov.	Functional auditing	FX management	Capital structure and asset level	Stakeholder engagement
Accounts receivable	Contract negotiations	Journal entry processing	Reporting	Product profitability	Quarterly/rolling forecast	Statutory policy and gov.	Consultation	Liquidity management	Business case support	Stakeholder relations
Billing and collections	Accounts payable	Reconciliations	Statutory Reporting	Customer profitability	Earnings forecast	Mgmt. accounting policy and gov.	Documentation and compliance	Cash management	Acquisitions and divestitures	Corporate communications
Dispute resolution	Requisitions and PO processing	Intercompany transactions	Audit Support	Profitability analysis		Internal process and controls		Capital strategy	Project accounting	Rating agency relations
Policy accounting	Payroll	Consolidation		Cost development		SOX compliance		Bank relations		
	Expense accounting and reimbursement	Close		Cost allocations		Tax and Treasury policy		Treasury strategy		
		Fixed asset accounting		Transfer pricing		Finance master data governance		Global economics		
		Securities pricing and product control		Ad hoc reporting						
		Legal entity mgt./ maintenance		Analytics and decision support						

90% + of RPA opportunity in Finance is in this blue zone

Legend

- High potential
- Situationally valuable

Accounts payable – is a typical area for RPA in Finance to get started on the journey

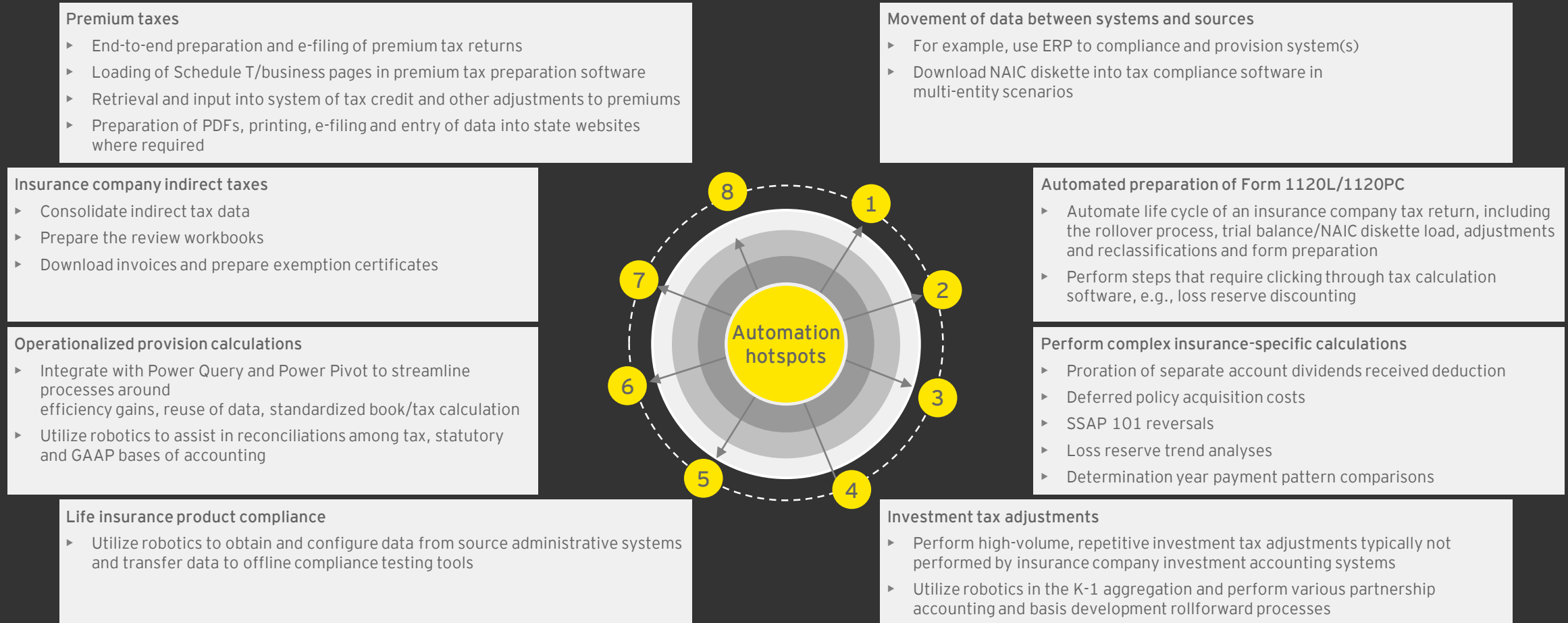


Finance RPA case studies

Company Finance focus	Process	Process time (hrs.)		# of FTEs		Quality review time		Benefits
		Pre-RPA	Post-RPA	Pre-RPA	Post-RPA	Pre-RPA	Post-RPA	
Large global financial services institution General Accounting: Accounting import for local ledger accounting	To transfer and enrich accounting information from global ledger to local/regional ledger	4 hrs. a day	1 hr. a day	2	1	30 min a day	10 min. a day	▶ 75% less processing time ▶ Time reallocated to analysis/commentary ▶ Process redesign to daily process (local regulatory compliance)
Large global financial services institution General Accounting: Intercompany transaction matching	To identify variances for expense invoice reconciliation	66 hrs. a month (3 entities)	6 hrs. a month	6 (4 temp. staff)	2			▶ 90% less processing time ▶ Reduction of temp staff ▶ Improved job satisfaction ▶ Time reallocated to value-added analysis
Global diversified financial services institution Financial and External Reporting: Variance report generation	To identify variances/risks regarding assets and liabilities for depository institutions	40 a month	1.7 hours a month	3	3	3 hrs. a month	30 min. a month	▶ 95% decrease in processing time ▶ Improved job satisfaction ▶ Time re-allocation on value added analysis ▶ Enhanced controls
Global bank Operational Accounting: Loan sales accounting	Requires aggregation, transformation and reporting of data using MS-Excel	150 min. a month	15 min. a month	4	2			▶ 90% decrease in processing time ▶ Time re-allocation on value added analysis ▶ Reporting accuracy

Automation “hot spots” for insurance taxes

Common areas where RPA helps drive value



Utilizing robotics to automate the unique calculations and tasks specific to life, property and casualty, and health insurance companies and products

Automation at scale and key success factors



Scaling automation

Opportunity management, governance and expectation management

Through both our own, as well as through our working with hundreds of clients globally, we have learned that there are three key components to scaling automation:

- ▶ Strategy and mandates
- ▶ Capability understanding
- ▶ Value realization/expectations
- ▶ Pitfalls and measured adoption
- ▶ Balancing technical constraints
- ▶ Operational responsibilities
- ▶ Risk management

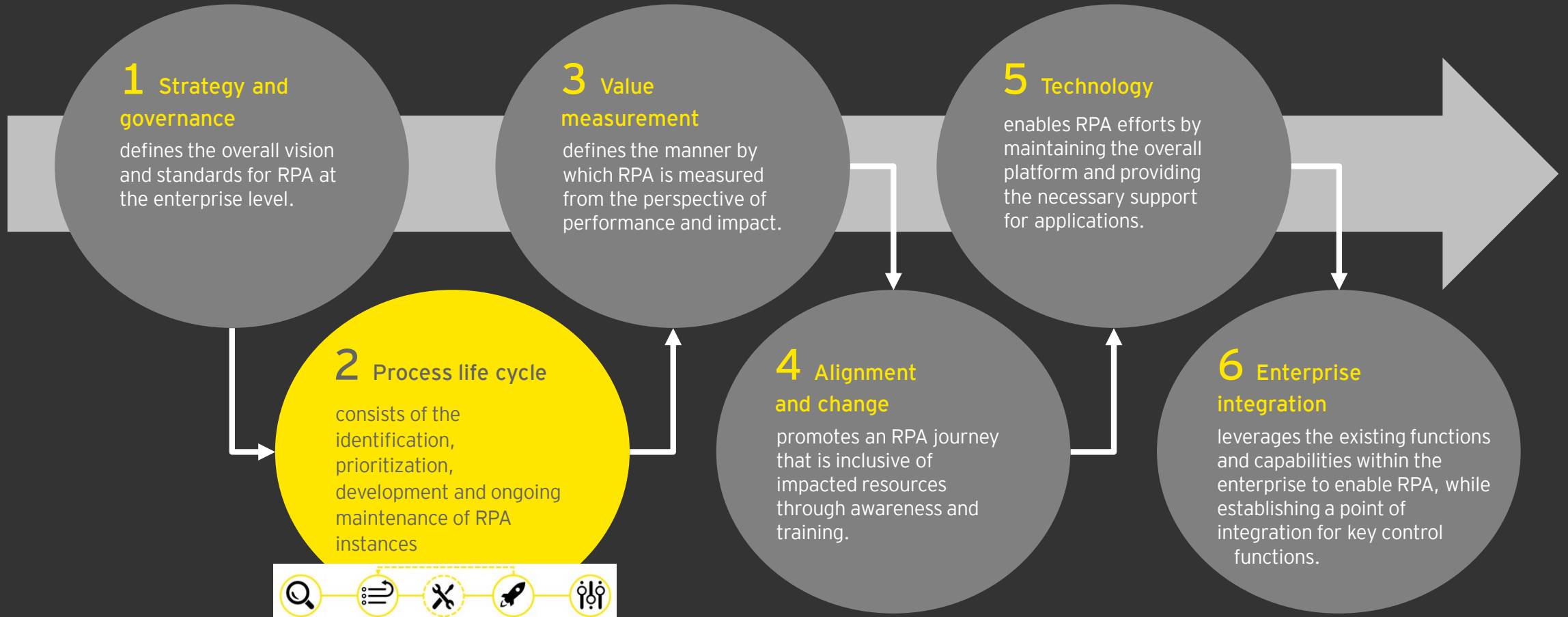


- ▶ Opportunity identification
- ▶ Prioritization framework
- ▶ Solution decision criteria
- ▶ Approval workflow
- ▶ Automation accountability model

- ▶ Policies and standards
- ▶ Central vs. local accountabilities
- ▶ Technical oversight
- ▶ Value measurement and transparency
- ▶ Risk oversight
- ▶ Automation inventory management and analytics

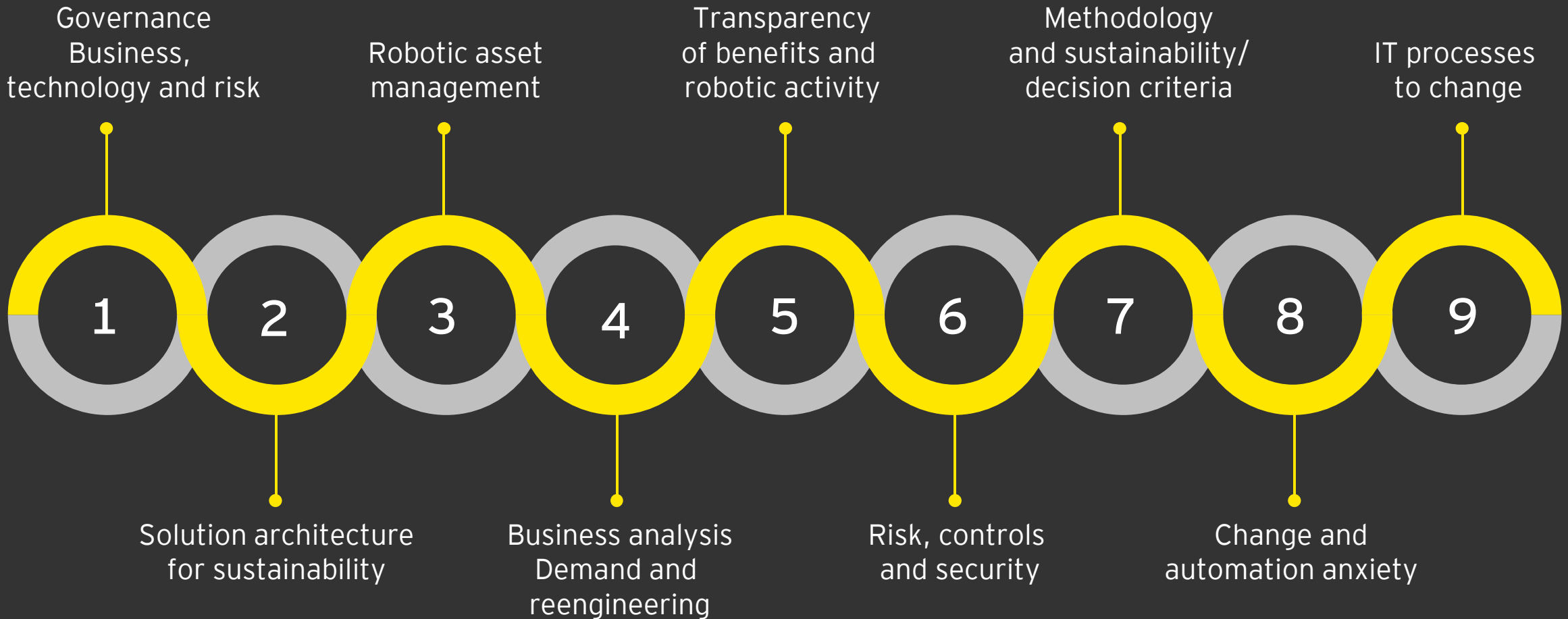
Six operating model components

Key objectives



How has your organization demonstrated agility to tackle the risk and control agenda for each of the above domains to provide enhanced visibility regarding RPA program soundness?

Critical considerations to deploy RPA at scale

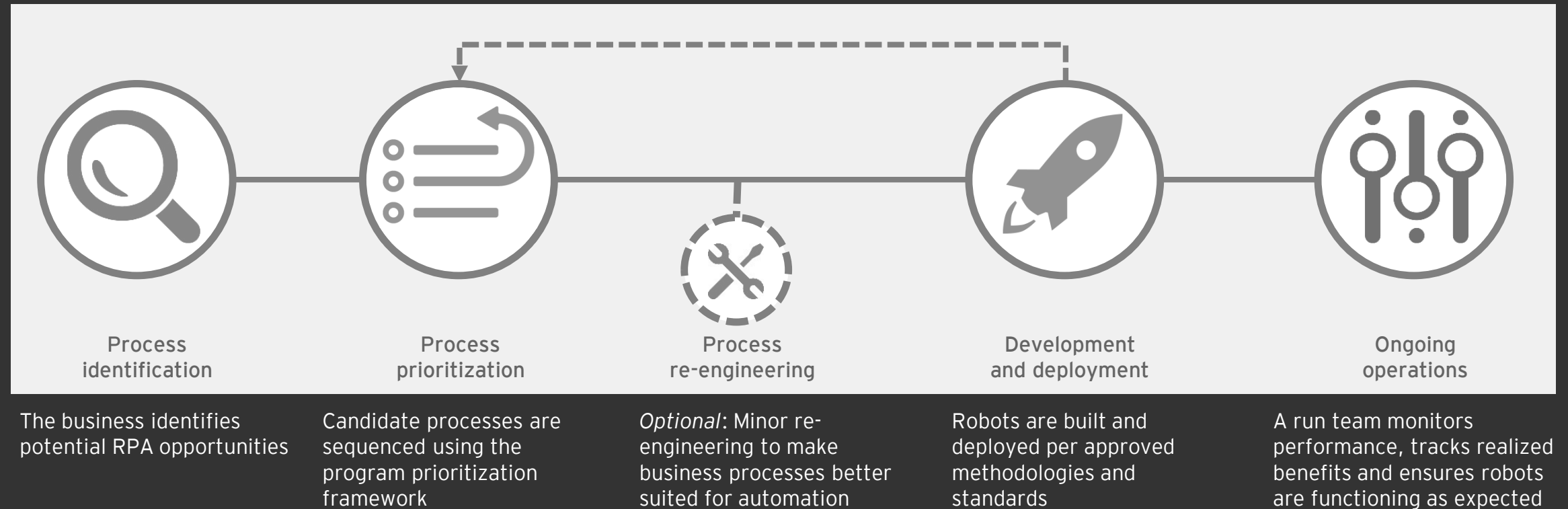


Process lifecycle of an RPA program

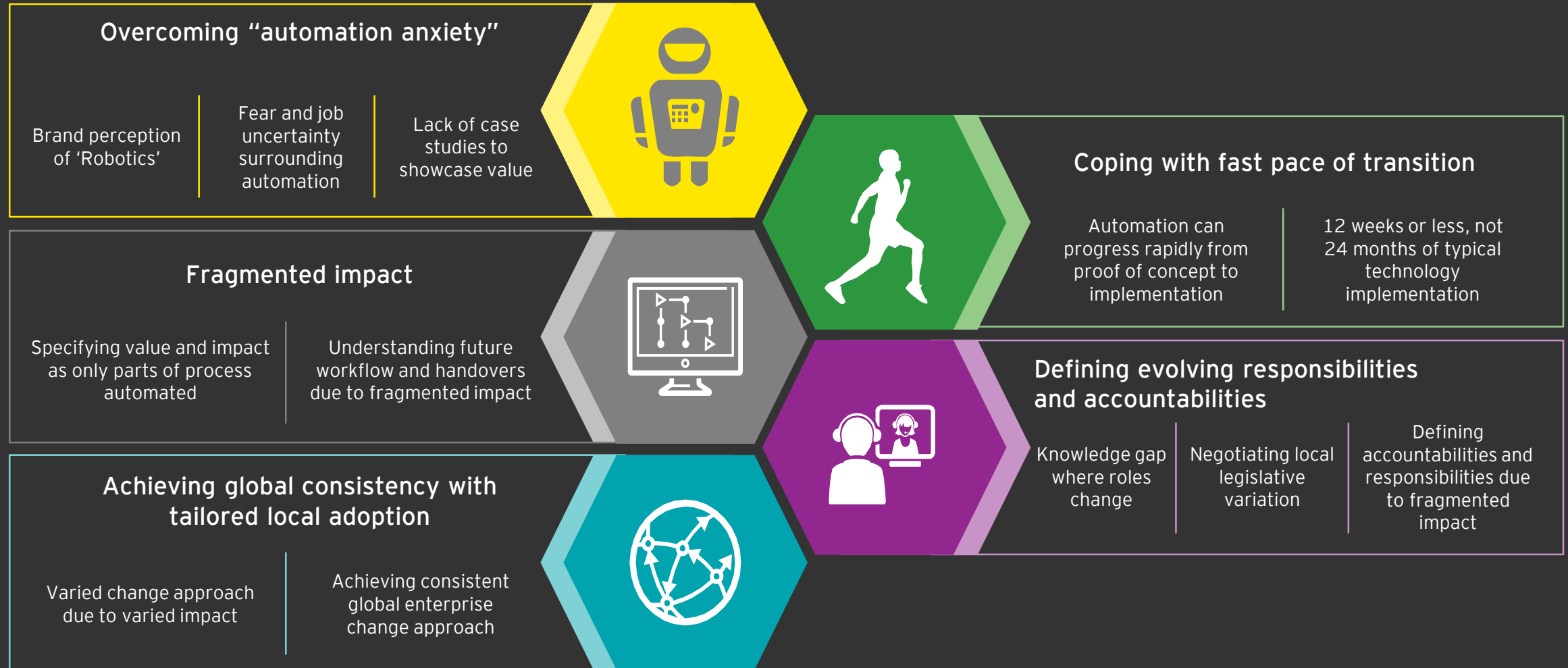
End-to-end view of RPA execution

A RPA Program is **essential to realizing sustained business value** by providing methods and resources to enforce consistency, measure performance, and ensure proper controls in the use and execution of RPA.

RPA program



Challenges and risks to overcome



Getting started is key!

“The secret to getting ahead is getting started.”

Mark Twain

Thank you!



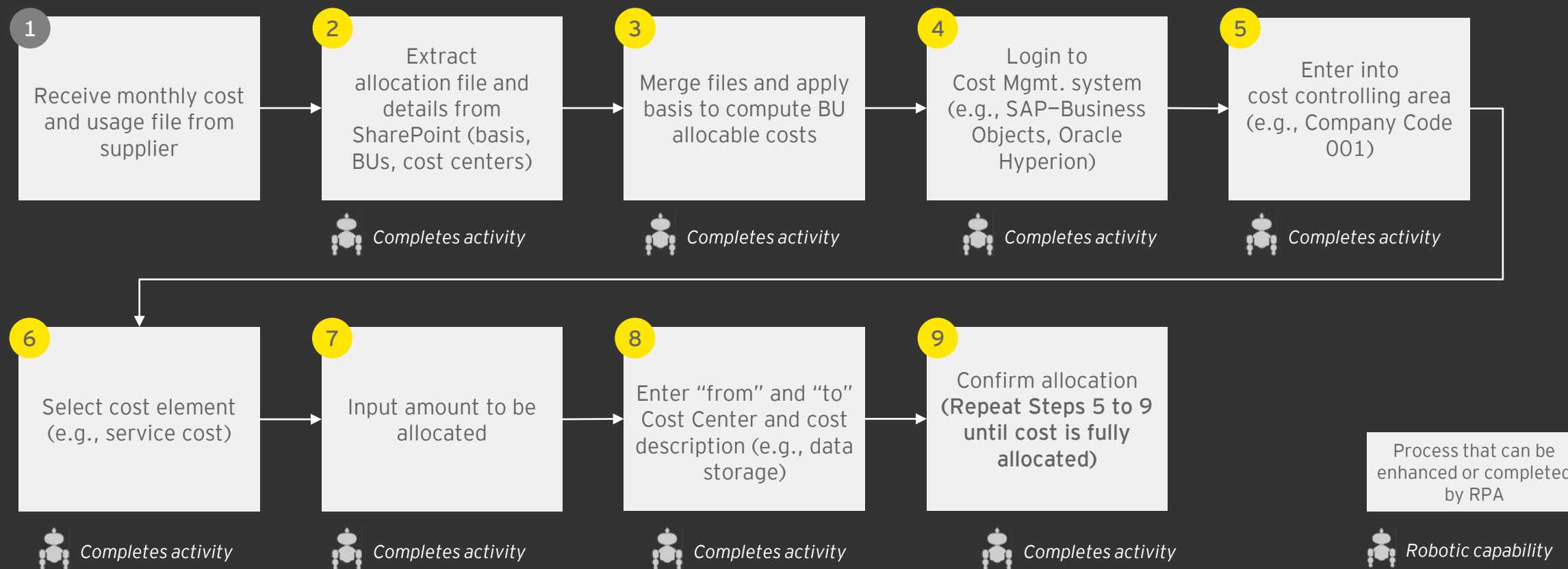
Appendix

Finance RPA use cases



Use case for finance – manual cost allocations 2 FTEs, three days down to less than one day

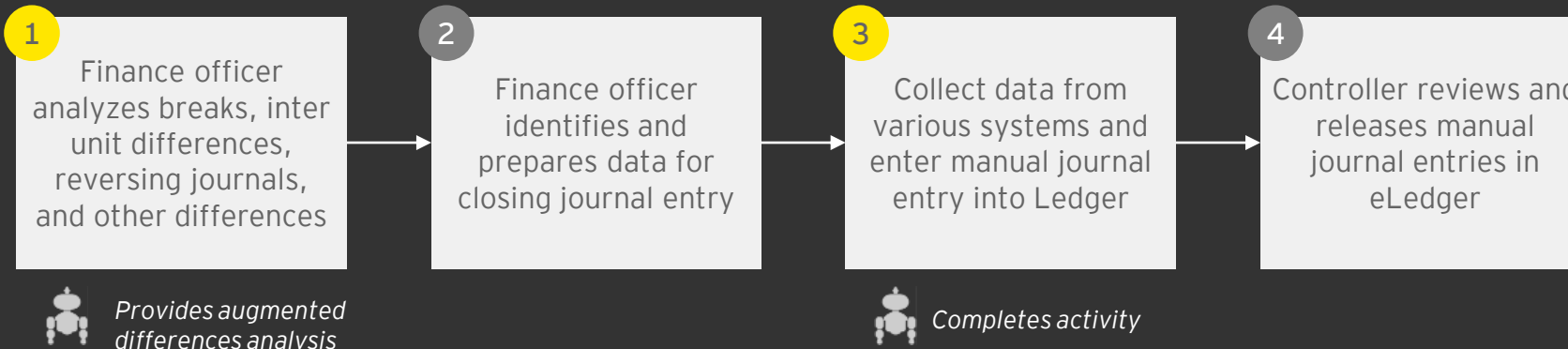
Operationally intensive and time consuming effort is required every month to identify, aggregate and allocate cost across 2,000+ cost centers – an error prone process that may take 2 FTEs three days or more for one cost element. Robotic Process Automation can automate this task and perform this activity with accuracy for several cost elements in less than a day.



Use case for finance – manual journal entry processing

Time consuming and manual effort is required to enter routine manual journal entries during peak closing windows.

Manual journal entries in closing



Process that can be enhanced or completed by RPA

 *Robotic capability*

Use case for finance – reporting pack creation

Time consuming and manual effort is required to create reporting package for senior management review and consumption. Robotic process automation drives disparate data gathering, consolidation and presentation to refocus finance teams on greater value added tasks (e.g., analysis, commentary etc.)

Reporting package creation



How a bot works – some videos

Imagining what is possible

There are demo automation videos on our Tax RPA site with the following topics.

<http://www.ey.com/gl/en/services/tax/ey-taxrpademo>

1. Business Tax Compliance (BTC) Book Return creation for a Form 1120 (with voice-over in video)
2. BTC Extension Process (no video-voice over)
3. Tax Data Handling (with voice-over in video)
4. Data Enablement (with voice-over in video)
5. Data Migration (with voice-over in video)
6. FATCA and CRS reporting (no video voice-over)
7. Form 5471 automation (with voice-over in video)
8. Intercompany Diagnostic Tool (with voice-over in video)
9. SUTC Invoice Downloading (no video-voice over)
10. Tax Provision in OneSource Tax (with voice-over in video)
11. Fixed Assets (with voice-over in video)
12. New Hire Onboarding (no video-voice over)
13. [VAT Accounts and Returns Reconciliation Automation](#) (with voice-over in video)
14. [VAT Report Download Automation Demonstration](#) (with voice-over in video)

Other information



Discussion leader



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- ▶ Sharda Cherwoo serves as one of our firm's senior leaders for Intelligent Automation and Robotic Process Automation. This position evolved out of years of experience leading a wide range of firm and client service initiatives that focused on transformative business strategy, people and process innovation, global entrepreneurship and operations. In addition to her current IA and RPA roles, Sharda also serves as the Senior Advisory Partner to the EY Americas Leadership executive team, advising senior leadership on firm strategy and growth initiatives and also serves as a client service partner on several of the firm's largest global accounts.

Professional experience

- ▶ Sharda has taken a hands-on approach to leading and implementing EY's innovative technologies strategy and implementation. Her work in bringing RPA to EY in the Americas was honored with the Gold Stevie® Award Winner in the 2017 American Business Awards in the category of Innovation of the Year. She also won the silver award in 2017 global Stevie® Awards for Most Innovative Woman of the Year – Business Services. Sharda also received the Best in Biz Gold Award for 2017 Innovator of the Year and the Gold winner for Female Innovator of the Year at the 2018 Women World Awards. The Awards recognize the best in leadership, innovation, organizational performance, new products and services from every major industry in the world, including public, private, for-profit and non-profit organizations.
- ▶ She has been the catalyst for EY's significant investment in RPA (and related innovations) and over the past two years, including leading socialization of the content to gain senior stakeholder and EY executive board buy-in for the internal implementation investment as well as efforts aimed at developing both the short- and long-term strategy and road map for the firm. Specific accomplishments in these areas include:
 - ▶ Intelligent automation governance model development and team structure for implementation, including providing executive leadership for the solution architecting, configuring, IT enablement, process improvement, talent and market implications and training and skills development
 - ▶ Business case development and opportunity assessment to identify and prioritize automation opportunities for deployment across functional business units
 - ▶ High-level design and strategy for the EY RPA CoE, including operationalizing the automation delivery, change control, testing and ongoing support model to drive sustainable success to realize intended benefits
 - ▶ Talent redeployment and up-skilling approach, training design and program development, including change management implications and creating a process for continued innovation around automation and process improvements
 - ▶ Digital workforce (bot) funding and cost allocations, bot utilization and benefits realization model, post-production readiness assessment and KPIs to drive accountability and sustained success
- ▶ In addition to Sharda's internal implementation role, she has provided strategic advisory services that ranged from conducting RPA and innovation workshops with clients to identifying opportunities for intelligent automation both internally and with clients and advising clients on developing and implementing an intelligent automation road map and providing advice on sustaining success on post-production RPA operations. As an established thought leader in the automation space, She often shares her insights and experience via various external webcasts, innovation sessions, business media articles and training programs.
- ▶ As the first CEO of EY's innovative, award winning and first Global Delivery Services (GDS) operations in India, Sharda developed the strategy and design implementation plan for this breakthrough offshoring operation for EY. On the ground in the GDS, Sharda led development of the operating model and shared service strategy for driving an innovative culture in this center.
- ▶ Sharda has also held business unit leadership positions in the firm with responsibility for strategy, operations and growth in a variety of practices across the US, Canada and Latin America.

Our intelligent automation awards and recognition



EY Tax RPA is Gold Winner
Innovation of the Year
Business Service Industries [🔗](#)



EY receives top award for
**Global Delivery and
Excellence** in robotic process
automation from Blue Prism [🔗](#)



EY wins Pega 2017 Partner Excellence
in Thought Leadership Award:
Future of Work [🔗](#)



EY is the first, and only, global
organization to receive **Blue Prism's Gold
highest recognition** in intelligent
automation delivery and capability [🔗](#)



EY ranked **#1 in IT services
consulting** for banking, securities
and insurance by Gartner [🔗](#)

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