Everest Group® RESEARCH

UiPath

Smart RPA Enterprise Playbook

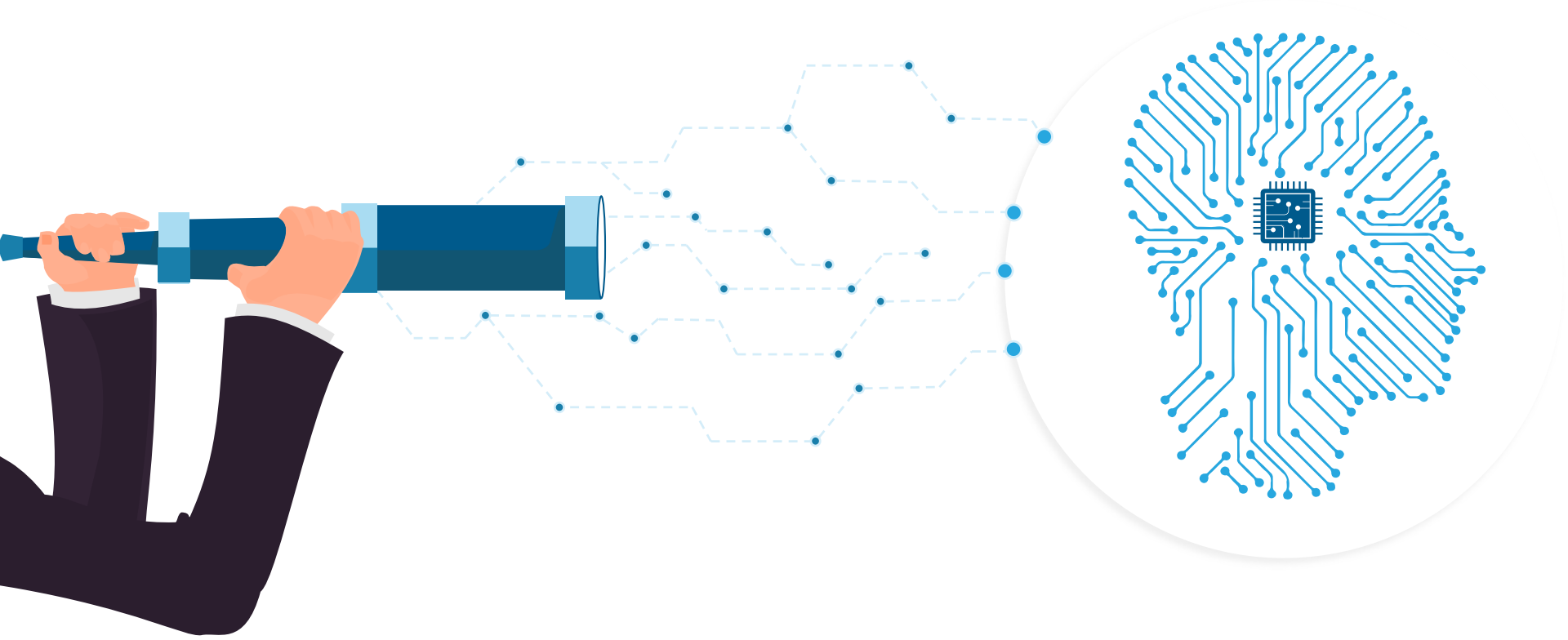
October 2018

Table of contents (page 1 of 2)

Table of contents (page 2 of 2)

Objective

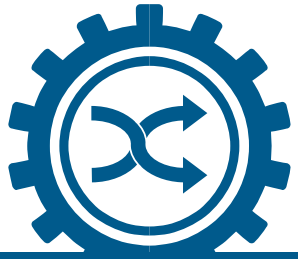
The aim of the Smart RPA Playbook is to empower enterprises at various stages of their Smart RPA journeys with insights, methodologies, and practical advice to help develop winning strategies to achieve best-in-class business outcomes from their Smart RPA investments



Key content

- **Introduction to Smart RPA**
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

Enterprises' key business objectives/imperatives are evolving to remain competitive in the market



Legacy business

Value

- Cost reduction
- Efficient process
- Service Level Agreement (SLA) reporting

Levers

- Shared services
- Labor arbitrage
- Lean Six Sigma
- Legacy tools and wrappers

Drivers of change

- Benefits from traditional processes – such as shared services, offshore labor arbitrage, and Enterprise Resource Planning (ERP) – have started to reach saturation
- Challenges from increasing administrative expenses due to expanding coverage and regulatory stringency
- The need to keep pace and remain competitive with evolving customer expectations and business situations in a digital-first world

Digital-first business

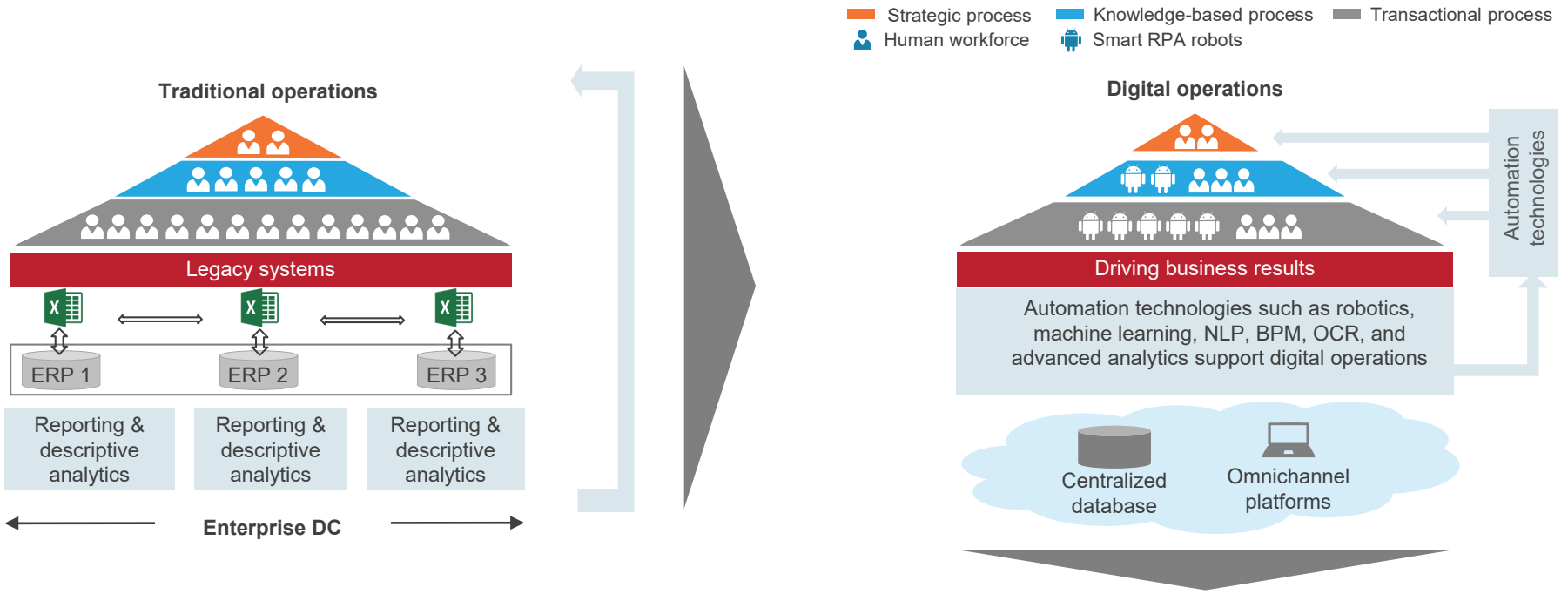
Value

- Maximize profits
- Eliminate manual work
- Reimagine processes
- Focus on business metrics

Levers

- Digital tools and automation technologies
- Design thinking
- Deep domain expertise

Manual operations are being transformed to digital, automated, and smart business processes to achieve business outcomes



Major problems in traditional operations
Processing high volumes of unstructured data
Manual processing of mundane tasks and human errors
Legacy systems not compatible with modern applications
Increased customer queries across multiple channels

Business outcomes	
Cost elimination and profit maximization	Enhanced customer experience
Process efficiency	Improved governance and compliance
Increased workforce productivity	Higher flexibility and capacity creation
Enhanced employee experience	Touchless transactions

Acronym key: NLP: Natural Language Processing); BPM: Business Process Management; OCR: Optical Character Recognition

Smart RPA is a core capability to enable the change to digital, automated, and smart business processes…

Factors driving the adoption of Smart RPA among enterprises

Enhancing customer experience, disrupting competition, and top-line growth
Smart RPA enables enterprises to differentiate themselves with a digitally-enabled customer experience and faster time-to-market for new products and services, and thus disrupt competition and attract and retain new customers that are digital-friendly

Laying the groundwork for a broader digital transformation agenda
As automation requires the creation of at least business unit-level transformation to realize potential, it allows enterprises to create a roadmap to digitally enable their organizations and drive an enterprise-wide digital agenda

Increasing operational efficiency and quality
Process automation results in faster turnaround time and reduction in human errors. Also, data generated by Smart RPA could be used to further identify and eradicate operational inefficiencies

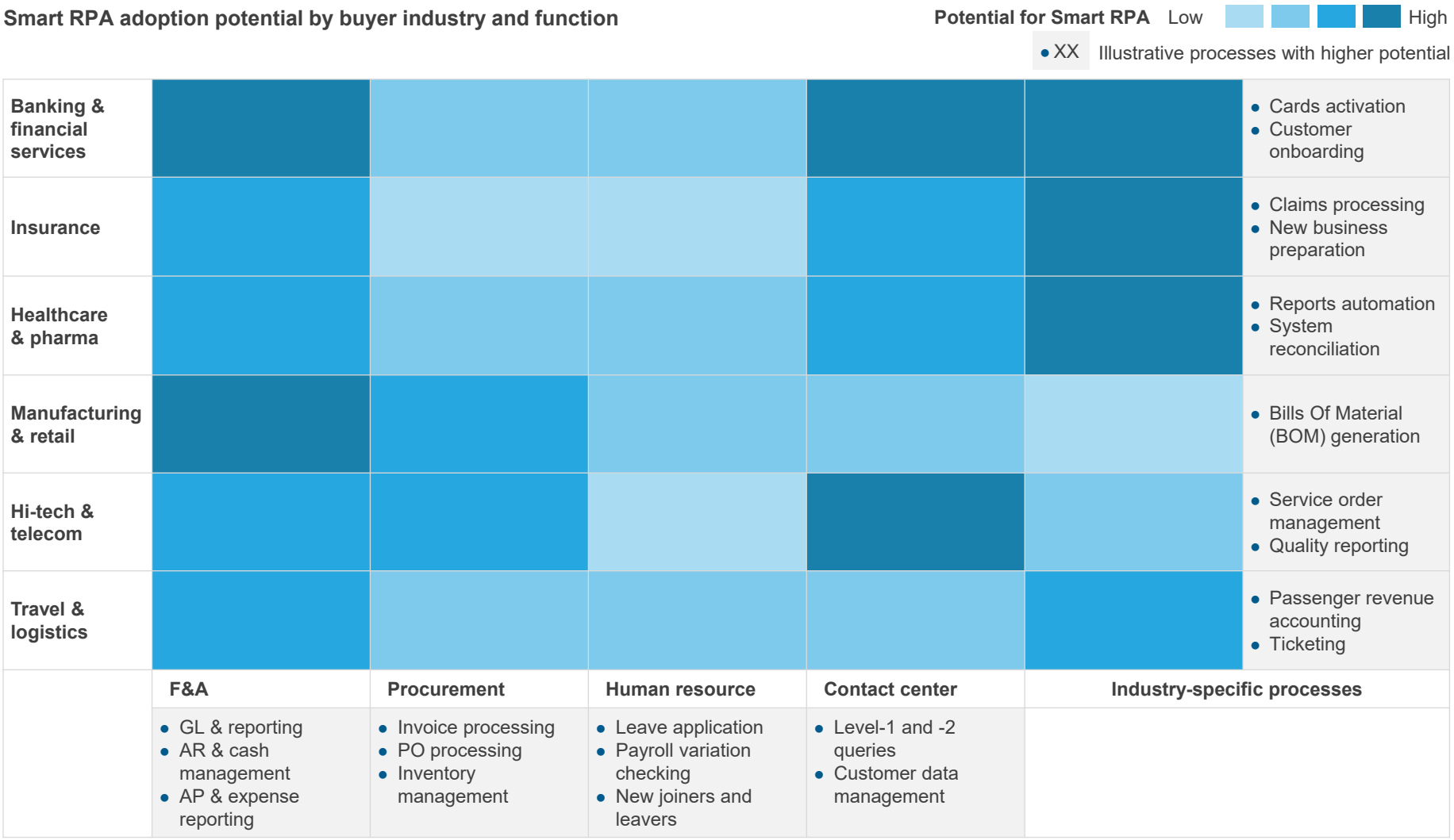
Increasing employee productivity and improving experience
Robots are usually deployed in part of a process, working beside a human. Human resources freed from mundane tasks can focus on higher value tasks and handle more transactions in the same timeframe

Improve governance and compliance
Robust audit trail can be conducted for all the activities that robots perform, which leads to sound traceability and improved process governance & compliance

Cost-savings
Smart RPA results in significant cost reduction through both people and non-people (such as infrastructure) savings. Additionally, there are savings on hiring and new employee onboarding and training costs

...and it has application across industry verticals and functions

Smart RPA adoption potential by buyer industry and function



Case study: Developing digital capabilities for invoice processing using a Smart RPA solution

Business Problem

- Manual processing of high volumes of documents and unstructured data from customers through various channels including email, paper, fax, post, social media, and other electronic data streams on a daily basis
- High manual errors in processing documents, processing time, and cost of operations

Business objectives

- Provide better customer experience and enhance customer satisfaction
- Reduce manual errors
- Reduce cost of operations (i.e., decrease resources needed for manual processes)

Smart RPA solution

- A Smart RPA solution was implemented to develop digital capabilities for invoice processing
- The solution reads, interprets, and extracts key data from invoices and validates them against compliance and legal requirements
- Exceptions are automatically routed to human agents and the solution learns from the actions
- The validated structured data is automatically entered into the enterprise's ERP system

Business outcomes

- About **67%** reduction in the number of FTEs needed in the process
- Reduction in the amount of incorrect data generated due to human errors and considerable increase in process accuracy
- About **20%** reduction in the number of helpdesk queries and enhanced customer satisfaction

What is Smart RPA?: Solutions that combine RPA and AI technologies to automate business processes

Smart RPA RPA and AI solutions augment each other to form a Smart RPA solution that is essential for dramatic impact and that can achieve desired business outcomes

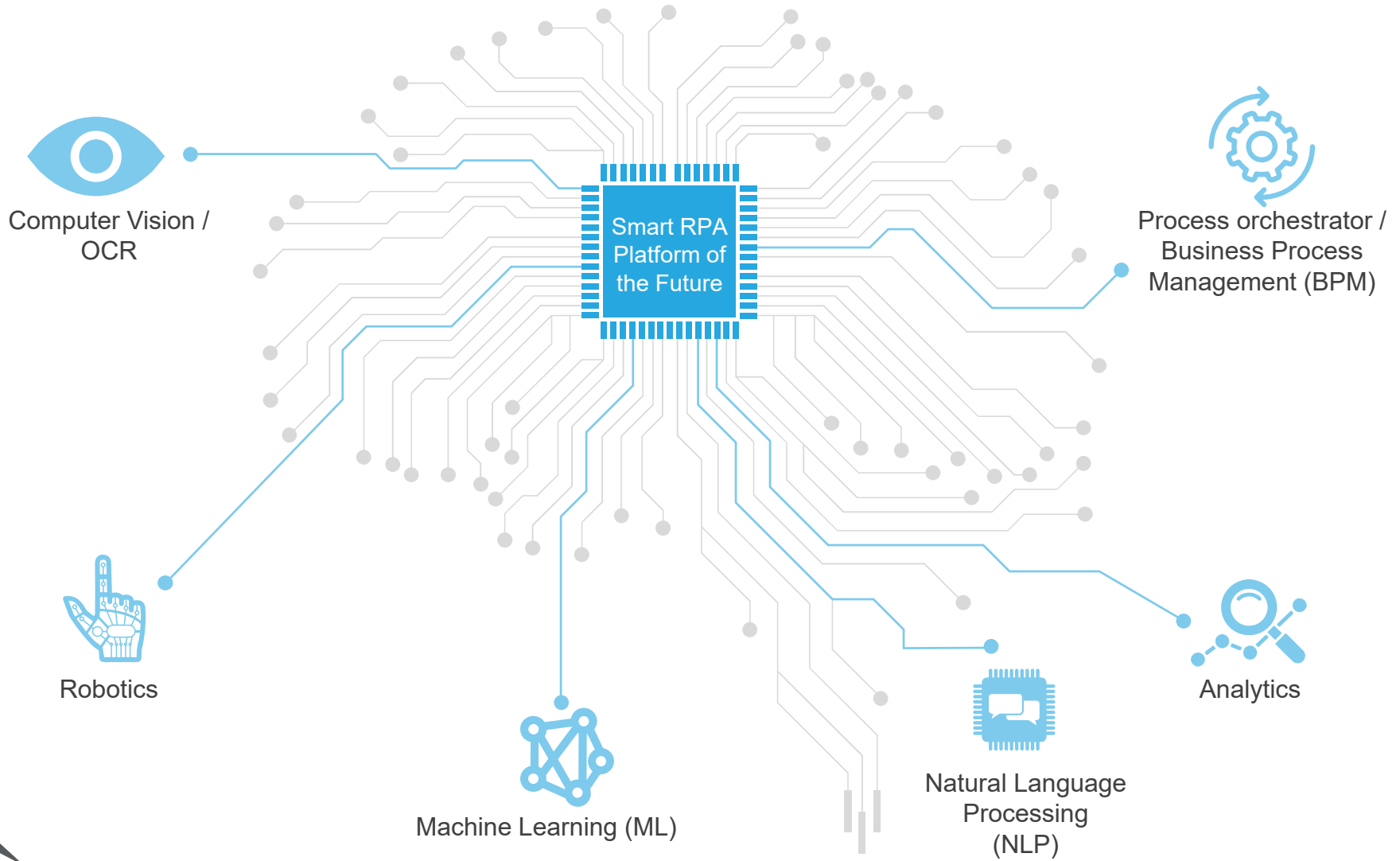
	Robotic Process Automation (RPA)	Artificial Intelligence (AI)
Key characteristics	• Mimics a user's activities • Follows a non-invasive approach • Can process structured and some semi-structured data • Rules-based automation; no learning capabilities • Highly deterministic; used mostly for transactional activities and standardized processes	• Mimics human thought process through vision, language, and pattern detection • Can augment RPA by processing unstructured data • Can "learn" or improve its performance over time without being explicitly programmed, based on data collected • Probabilistic but can have safeguards to make it deterministic
Differentiating capabilities	• Screen scraping • Rules engine • Basic analytics • Library of pre-built automations • Robot performance analytics	• Machine learning (ML) • Natural Language Processing (NLP) • Advanced analytics • Data capture • Automated training and self-learning • Library of machine learning algorithms

Key limitation: Unable to process unstructured data

Key solution: Unstructured data could be in the form of live conversations or documents. The following two types of AI solutions can augment RPA by processing these types of data:

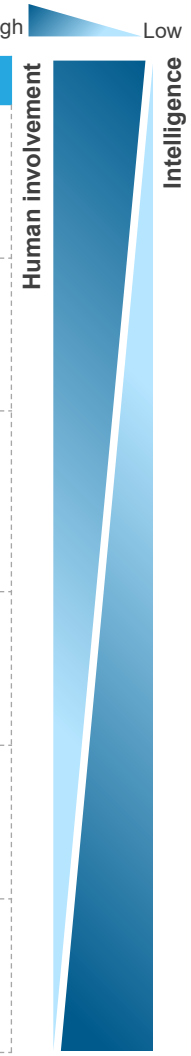
- Chatbots for live conversations
- Intelligent Document Processing (IDP) robots for documents

RPA platforms are fast becoming the glue that brings together enterprise automation



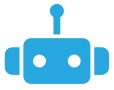
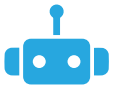
Key technologies that form the underlying systems for Smart RPA solutions

Technologies	Definition	Example – billing process
Robotics	**Robotics** refers to an execution engine for processing rule-based tasks	Moving customer data across disparate systems during billing
Optical Character Recognition (OCR) / computer vision	**OCR / computer vision** is a tool used to extract information from images and convert them into a machine-readable format. It utilizes descriptions, tagging, and domain-specific knowledge to identify and categorize content	Reading and gathering customer-entered data (structured or unstructured documents) and entering it into the pricing systems
Process orchestrator / Business Process Management (BPM)	**Process orchestrator / BPM** is a set of workflow and process designing tools in which the business logic for optimized processes can be configured. It governs the process flow and routes work to the best worker (human or robot) based on the nature, type, and criticality of the task	Used during a billing cycle to orchestrate the flow of work across human, robot, and system to enable end-to-end automation
Analytics	A suite of applications from worker performance analytics and process/business intelligence to diverse advanced analytics solutions such as predictive, prescriptive, and big data analytics	Automation solutions with embedded analytics could allow the company to describe, predict, and derive actionable insights for product pricing
Machine Learning (ML)	**ML** is a core technology within cognitive automation. It is a vital capability needed to automate knowledge-based business processes	As humans handle exceptions during billing, models learn and adapt, which further reduces manual effort
Natural Language Processing (NLP)	**NLP** is used to build software robots that can parse or interpret natural human language and script responses to their queries in natural language	Answering FAQs related to bills generated in interactive chat



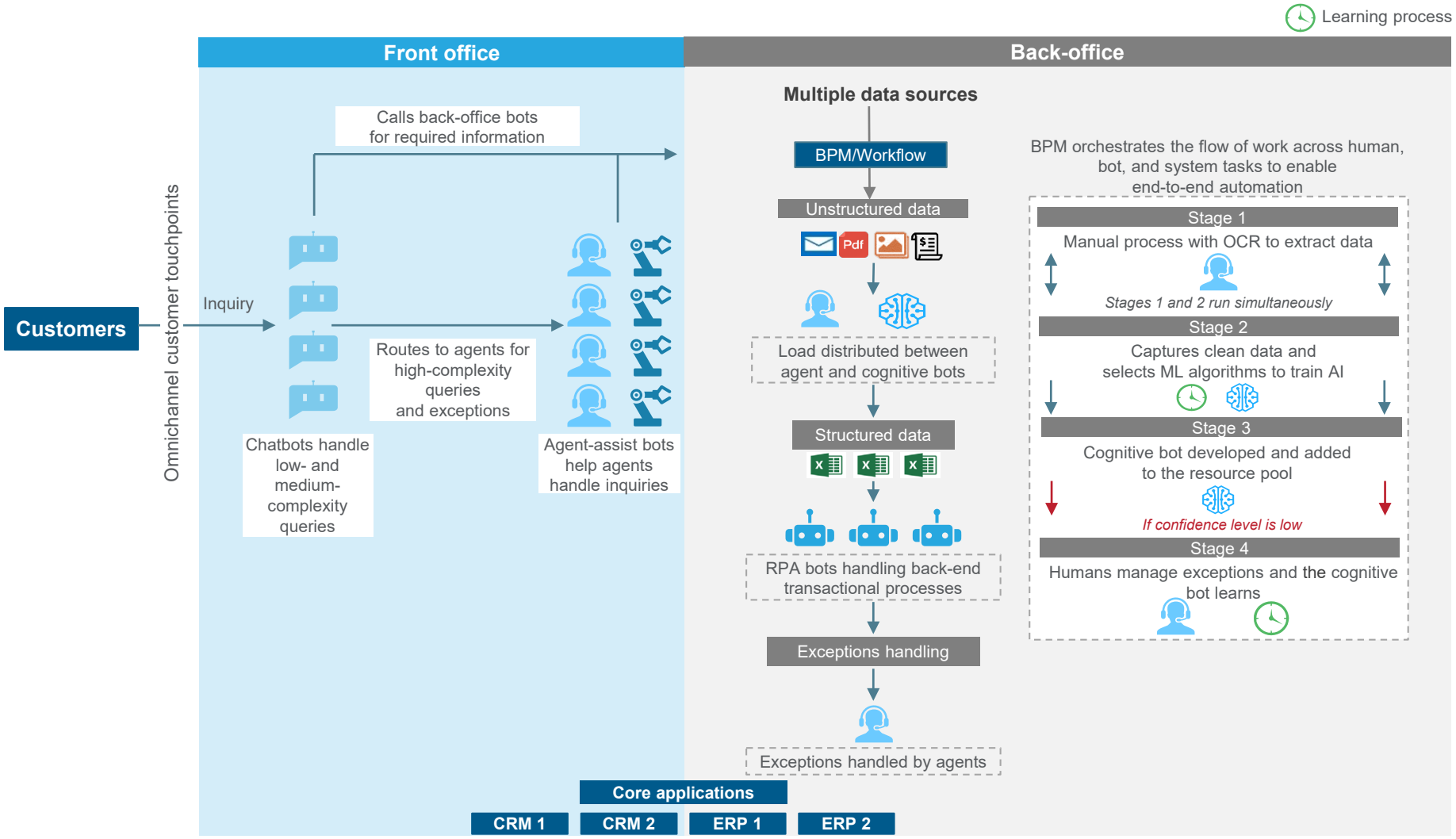
It helps to visualize how Smart RPA technologies can work in your organization. They can come together to create enhanced capability for your workforce and …

ILLUSTRATIVE

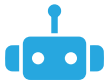
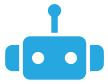
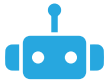
Use case	Next-generation workforce*	Activity	Technologies
Customer service	 Human agent Chatbot  Agent-assist robot	• Low-complexity inquiries are deflected through self-service channels to chatbots that interact directly with customers • Complex queries and exceptions are routed to human agents • Agent-assist robots help human agents to solve queries quickly and accurately	ML, NLP, Robotics, Process orchestrator
Data capture and extraction	 Human agent Chatbot  RPA robot  IDP	• Data is captured in all forms (both structured and unstructured) such as speech, text, or images • Relevant information is extracted from the captured data and further enriched	Robotics, OCR / computer vision, NLP, ML, Process orchestrator
Data validation	 Human agent Chatbot  Intelligent Document Processing (IDP)	• Data validation is done primarily by a human agent to take care of all the checkpoints and raise a flag in the event of discrepancies • An IDP robot or chatbot learns through the actions of a human agent	ML, NLP, Robotics, Process orchestrator
Data transfer (transactional processing)	 Human agent  RPA robot	• Structured data is transferred across disparate systems through RPA robots • The process includes various operations such as copy-paste, reconciliation, and sorting	Robotics, Process orchestrator
Reporting	 Insights robot	Data is analyzed using business intelligence for diverse advanced analytics solutions such as predictive, prescriptive, and big data analytics, and useful insights are reported	Robotics, Analytics, ML, Process orchestrator

* Some RPA products include many of the above natively built-in or through integration

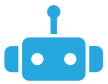
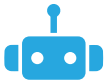
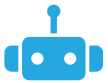
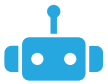
...enable digital transformation of front- and back-office operations



Next-generation workforce example 1: Developing digital capabilities for customer onboarding in a telecom enterprise

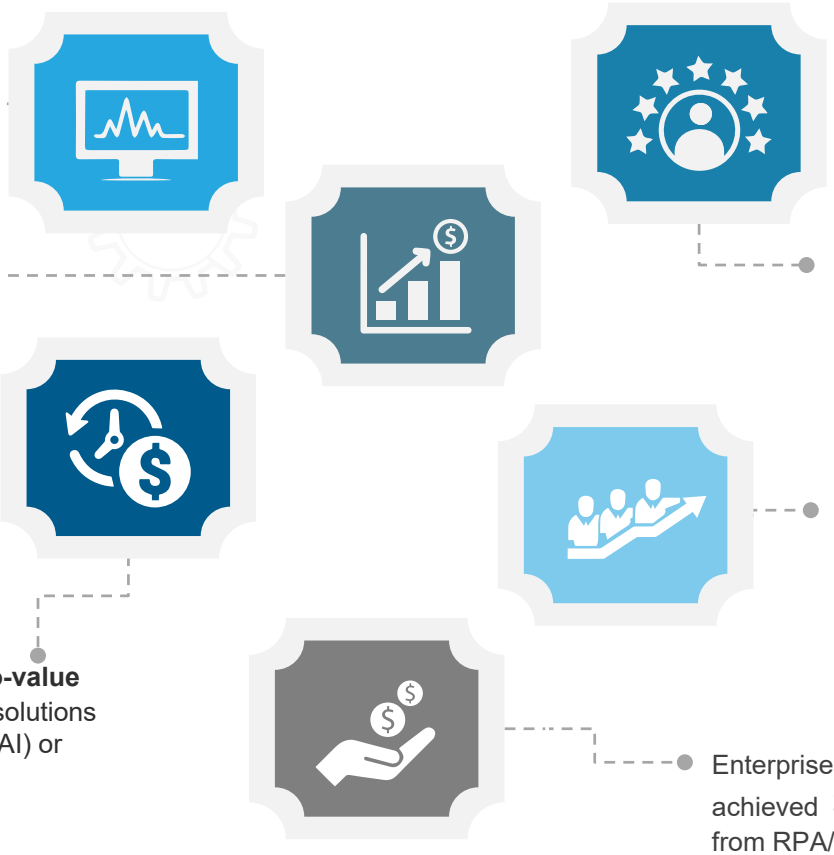
Steps for execution	Description	Next-generation workforce
Understand customers' requirements and capture relevant information	• Chatbots interact with customers in natural language to understand the intent and capture required information • Exceptions are routed to human agents, and the chatbots learn by observing human actions • Agent-assist robots suggest several possible packages/solutions based on previous customer interactions. The human agent is able to make a decision more quickly using these suggestions	 Human agent Chatbot  Agent-assist robots
Fill in forms and walk through external links	• A chatbot interacts with the customer to get additional information and passes on relevant information to the RPA robot • An RPA robot enriches the passed-on information using external websites and tools to complete the application form • The RPA robot saves application with a pre-defined naming convention	 RPA robot Chatbot
Validation of identity documents	• Data entry is validated against supporting documents and discrepancies are flagged automatically for review • This process also can aid in fraud detection and malware handling	 IDP  Human agent
Uploading data into backend enterprise application to create a unique ID	• The RPA robot runs the new entry data through various back-end systems to generate a unique customer ID and populate the details for the next billing cycle	 RPA robot
Spreadsheet population and data manipulation; Sending confirmation mail	• The RPA robot manipulates data and makes entries into a pre-defined template, including tentative bill calculations based on the selected plan • The RPA robot sends the customer a confirmation email	 RPA robot

Next-generation workforce example 2: Developing digital HR assistant capabilities

Steps for execution	Description	Next-generation workforce
Understanding user intent/requirements	• Chatbots interact with users in natural language to understand the intent and capture required information • Exceptions are routed to human agents, and the chatbots learn by collecting exception handling data and training its learning model	Chatbot  Human agent
Interacting with the HR system to execute users' requests	• An RPA robot receives relevant information from the chatbots and interacts with the enterprise HR system to execute the associated workflow to process user requests such as getting leave balances, applying for leave, getting specific documents such as performance reviews, travel claim applications, and medical claim applications, or filing a claim	 RPA robot
Extracting relevant information from claim forms	• For claim requests, the RPA robot extracts relevant information from the claim forms provided by users and makes the relevant data entry in the HR system • For semi-structured or unstructured documents, the RPA robot integrates with Intelligent Document Processing (IDP) to extract the relevant information	 RPA robot  IDP
Validating documents in support of claims	• The RPA robot integrates with IDP to validate the entry made in the HR system against the supporting documents and automatically flags any discrepancy for review • Human agents handle exceptions	 RPA robot  IDP  Human agent
Updating the status of requests to users and / or sending confirmation emails	• A chatbot collects relevant information from the RPA robots and updates users with the status of their requests • RPA robots send confirmation emails to the users	 RPA robot Chatbot

Enterprises have been able to achieve significant benefits from their Smart RPA investments

About 20% of enterprises that have deployed RPA have implemented AI in conjunction with their RPA deployments[1] and the number is rising



Enterprises, on average, **achieved 30-40%** improvement in **operational metrics** such as process accuracy, cycle time, staff productivity, and SLA compliance from RPA/AI

More than 50% of enterprises that adopted RPA/AI indicated high to very high impact on improving **customer experience**

Enterprises, on average, achieved a **ROI** from RPA/AI investments within the first 12 months

More than 20% of enterprises achieved **revenue growth** from their RPA/AI deployments; this result is indicative of a relatively lower level of adoption maturity in the market

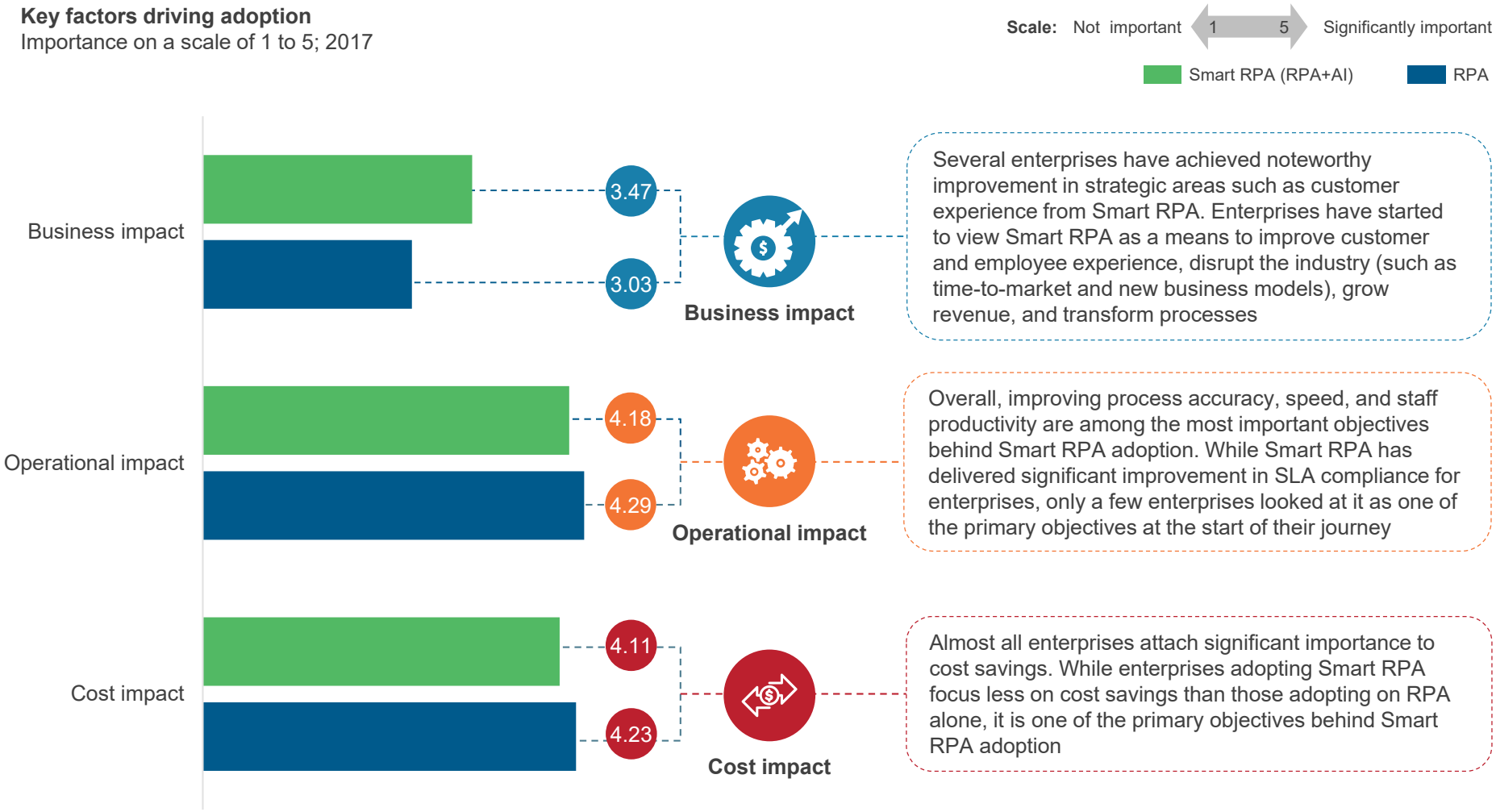
Faster implementation time and time-to-value realization with RPA than other comparable solutions such as Enterprise Application Integration (EAI) or BPMS tools

Enterprises, on average, have achieved **30% cost savings** from RPA/AI

1 Based on responses of 52 enterprises that have deployed RPA

Enterprises adopting Smart RPA are placing more emphasis on strategic impact drivers than those that are adopting on RPA alone

Key factors driving adoption
Importance on a scale of 1 to 5; 2017



Adoption of Smart RPA is not without challenges but they can be overcome (page 1 of 2)

	Challenges	Best practices / lessons learned
Process selection	• Difficult to automate higher-level processes • Lack of process standardization adding to cost and lowering Smart RPA returns	• Starting out with a happy path instead of trying to automate processes end-to-end • Integrating with BPM / process orchestrator • Looking into process standardization and optimization before automating
Availability of relevant and sufficient talent	• Shortage of skills to develop, manage, and run Smart RPA solutions • Lack of practical knowledge to implement AI tools and technologies	• Vendors are boosting training and education programs • Enterprises should take input from third-party service providers to help with initial deployment and training of in-house resources
Organizational readiness	• Organizational change resulting from Smart RPA, i.e., change in delivery model, processes, etc. • Stakeholder buy-in • Concerns from IT teams	• Smart RPA implementations should be treated as change programs and managed using best practice change management methodologies, establishing a CoE, and partnering with enterprise IT

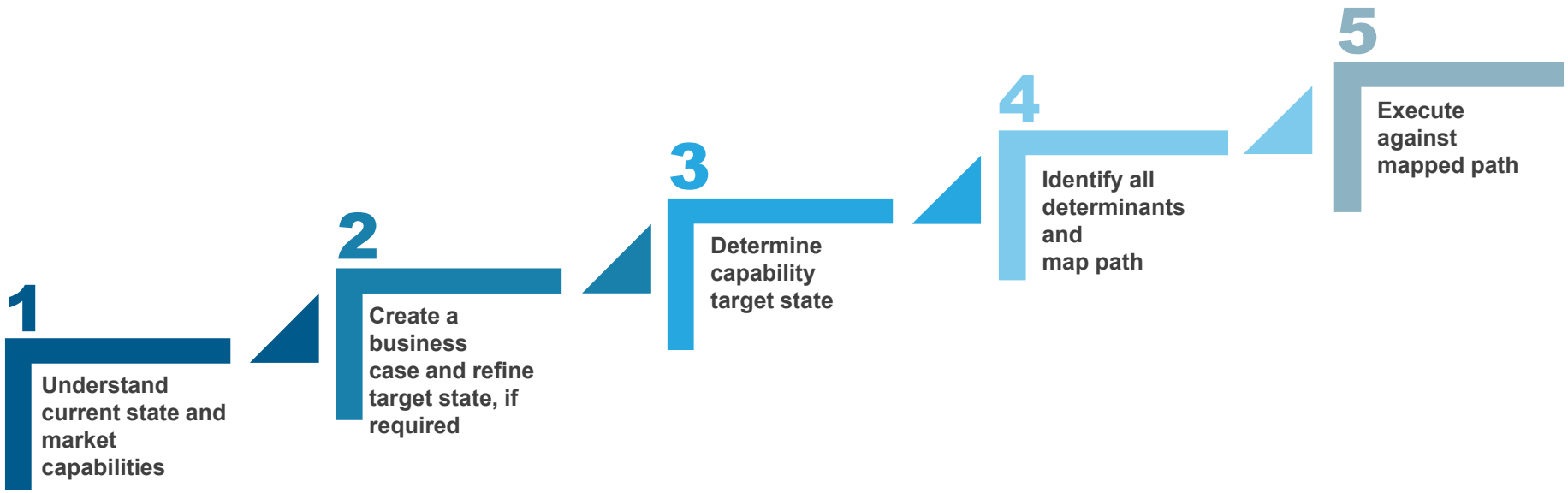
Adoption of Smart RPA is not without challenges but they can be overcome (page 2 of 2)

	Challenges	Best practices / lessons learned
Lack of sufficient data to train AI	• It often takes huge volumes of clean data to train AI to attain required accuracy levels • Extracting this data and making it relevant for training purposes is a task in itself, which hampers smooth adoption of AI	• One approach is to use past transactions' information or data, anonymize if necessary, and quality check for AI-based automation training • Making the right process choices for AI automation can get the company off to a good start on the learning curve
Transparency in AI decision-making	• Ethics and transparency are key concerns in AI adoption • Determining or tracking the path taken by AI software to make some decisions can be difficult	• Organizations with concerns over ethics, accuracy, and correctness of AI tend to use supervised learning that always involves a human working with AI
Implementation	• Scaling up Smart RPA takes longer than expected • Business people lacking Smart RPA programming skills and Smart RPA developers lacking business context	• Managing expectations around time and effort required to create impact • Enabling the right environment (such as a CoE) for business SMEs to efficiently work with the development team

Key content

- Introduction to Smart RPA
- **Enterprise Smart RPA journey**
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

Enterprises can break down their Smart RPA journeys into five distinct steps



- Understand the current state of organizational processes
- Identify processes suitable for automation
- Map out current capabilities and outcomes
- Understand automation technologies available and possible outcomes achievable

- For the outcome desired (based on operational and business metrics), detail the business case
- Refine target state outcome if the business case does not stand
- Iterate, if required, and identify achievable outcomes

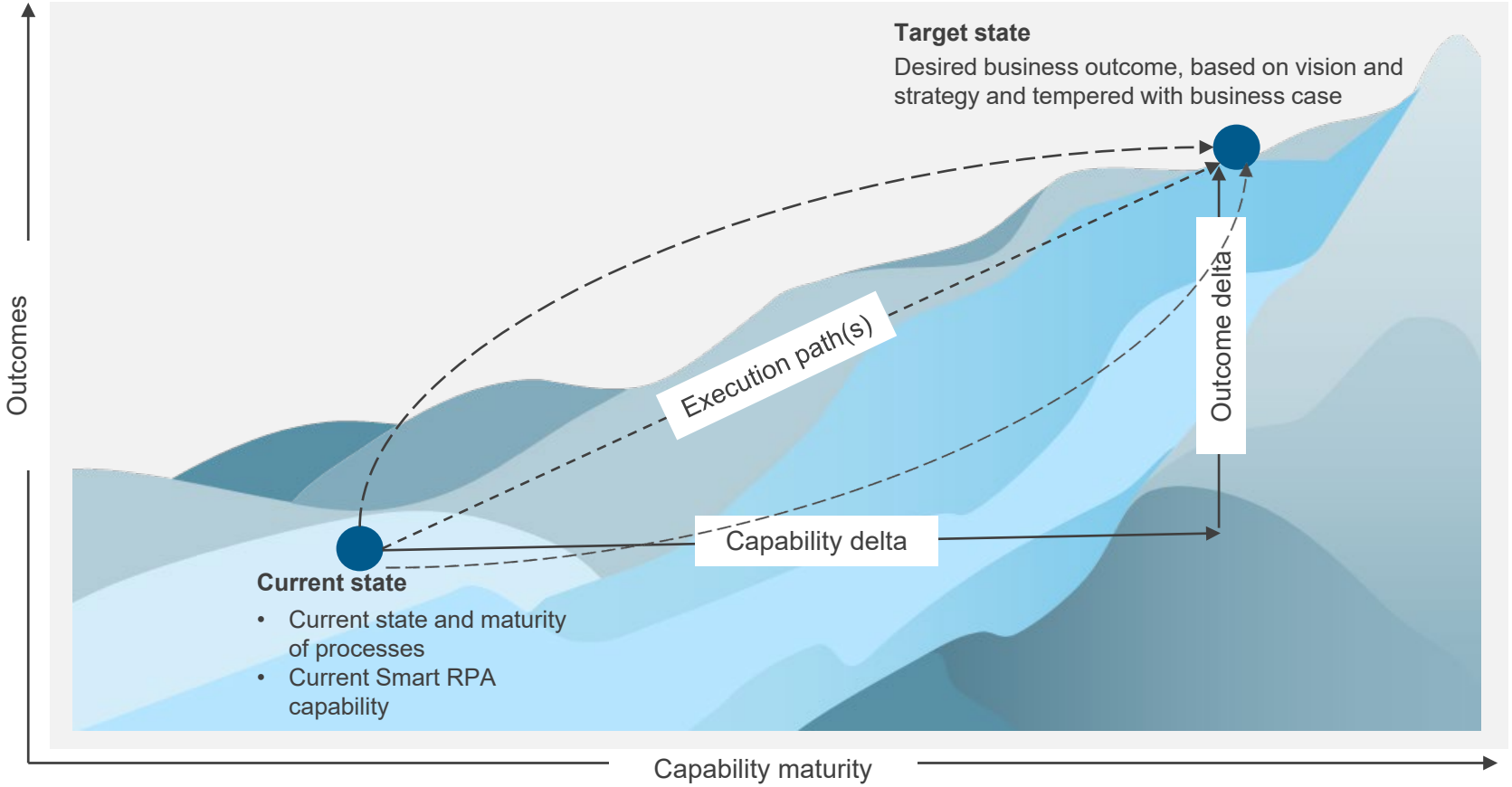
- Based on achievable outcomes, determine the capability level required
- Map out components of capability that would need to be created/achieved as part of the execution path

- Identify all determinants to the execution path, including environmental ones
- Identify the best-fit path based on both Smart RPA and environmental determinants

- Execute based on the planned path
- Course correct if and when new information comes to light
- Continuously monitor, seek to improve, and systematize

It is important for enterprises to understand their current and desired target states to map a best-fit execution path

STEP 1

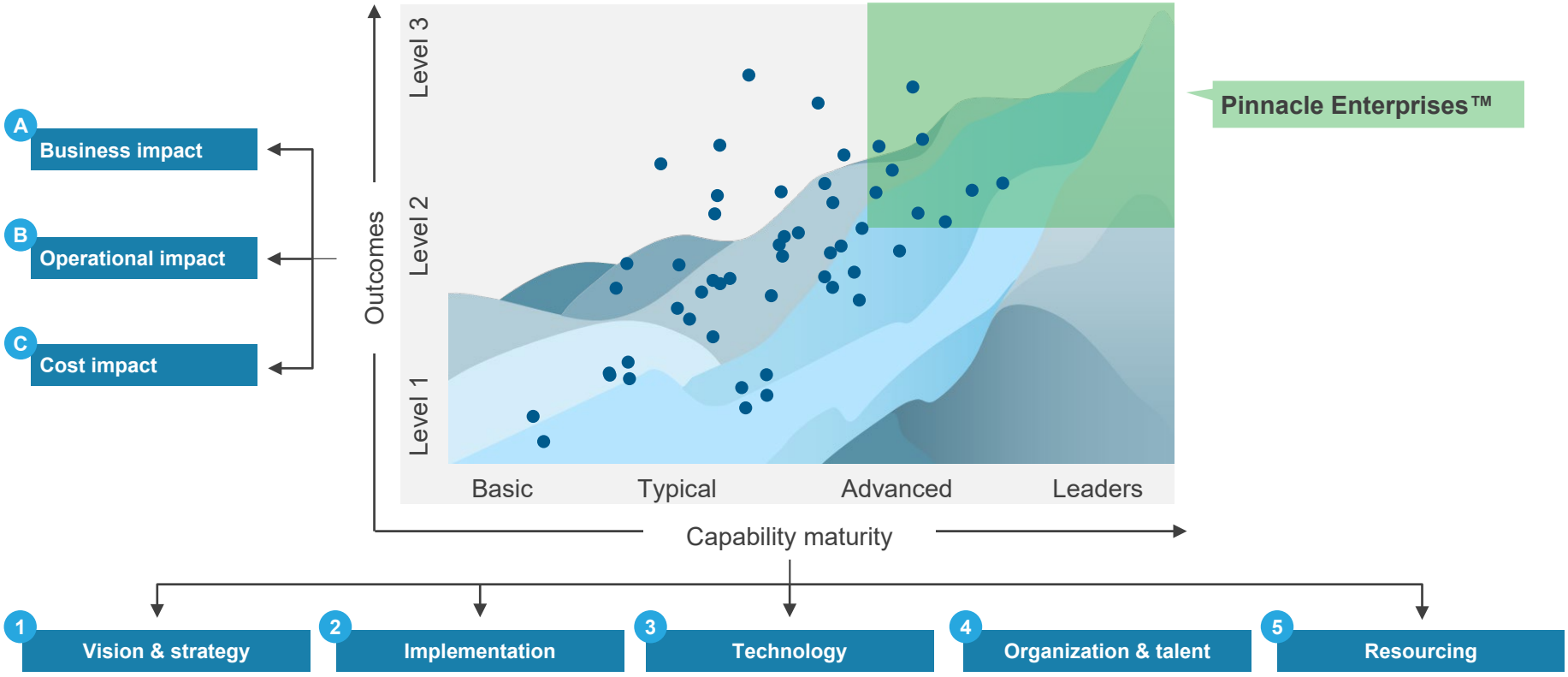


- The automation journey for every organization begins with an understanding of its current state of maturity and its aspirational target state
- While the start and target states outline the gaps to be bridged, the actual execution path to be followed to bridge those gaps will depend on multiple factors, as described in subsequent pages

The Pinnacle Model™ provides a framework to help enterprises measure Smart RPA journey current and target states, both in terms of outcomes and capabilities

STEP 1

Everest Group Pinnacle Model™ Analysis 2018 for mapping an enterprise journey to become a Pinnacle Enterprise™

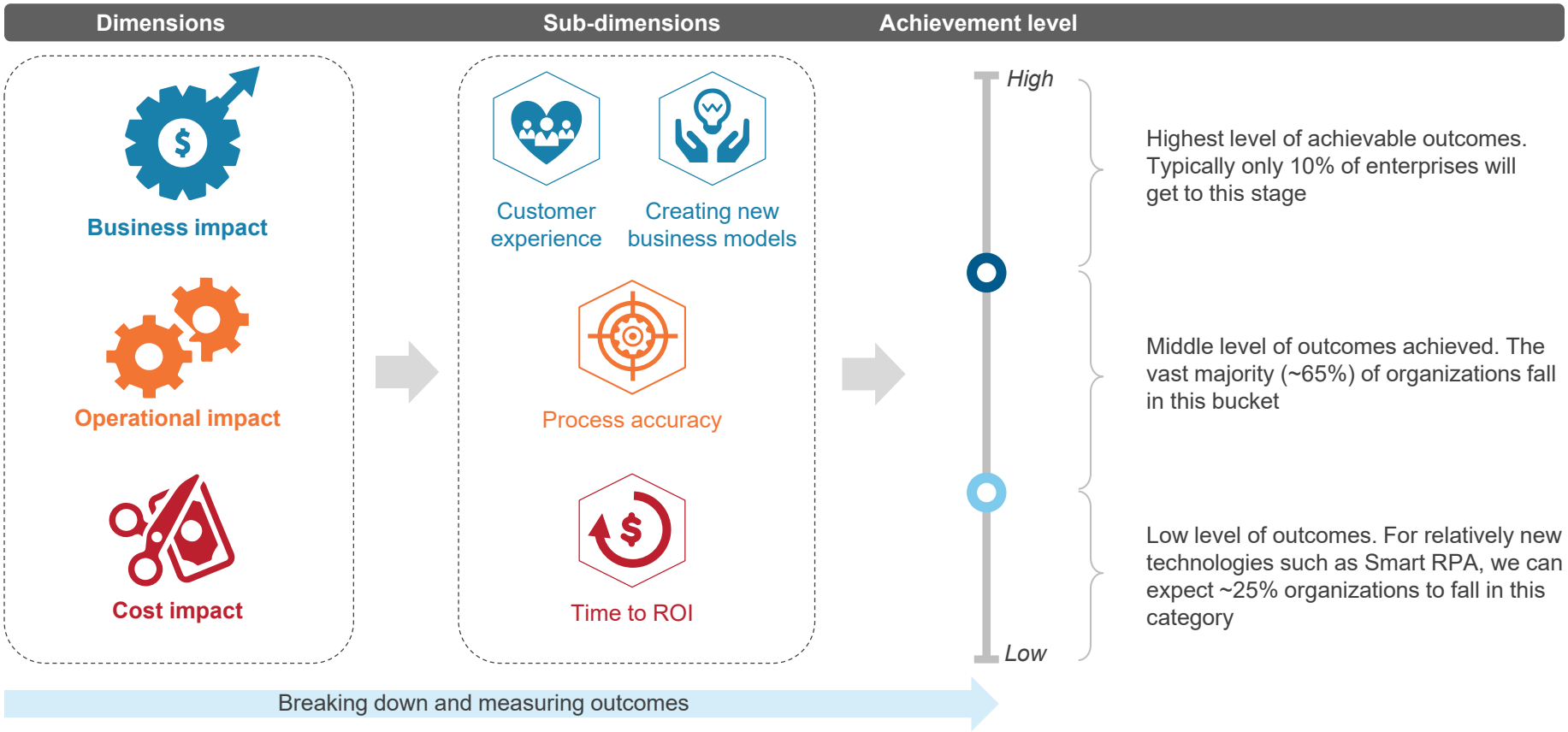


Definition of Pinnacle Enterprises™

- Enterprises that stand apart from others for their business outcomes and capability maturity
- Not all enterprises will be working toward the same destination, but alignment is critical

Outcomes: Use the Pinnacle Enterprise™ outcomes model to understand your current state and goals for the desired target state

STEP 1

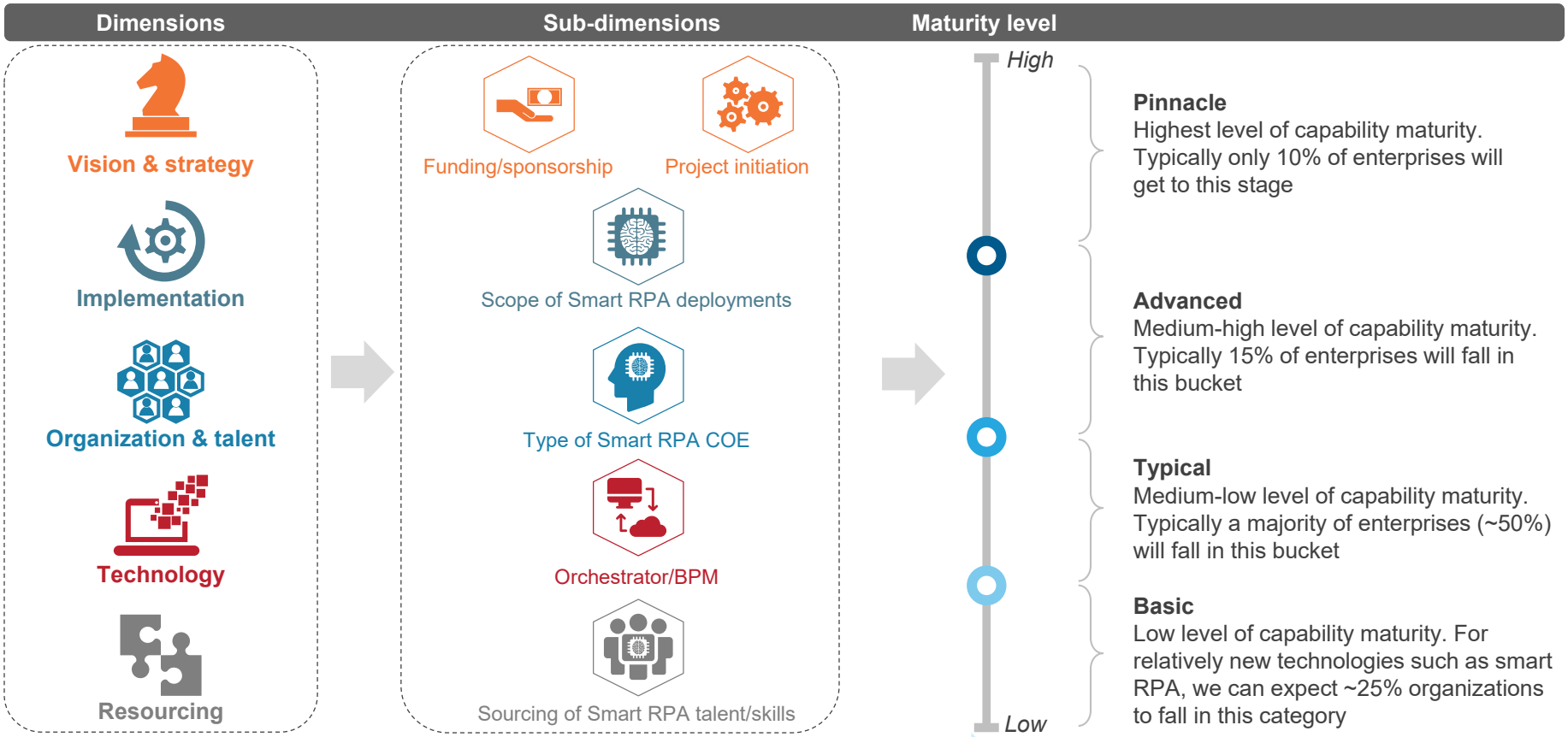


- Overall, outcome is measured through a combination of three factors: cost impact, operational impact, and business impact
- Each of these are further broken down into sub-dimensions that fall into one of three buckets depending on the level of outcome achieved. The exact measure of outcomes will vary significantly by the portfolio of processes being automated

1 Refer to pages 106-132 for the detailed model, dimensions, and sub-dimensions

Capability: The Pinnacle Enterprises™ Capability Maturity Model (CMM)[1] can help enterprises understand their current state of capabilities and subsequently where they want to get to

STEP 1



Breaking down and measuring capability maturity

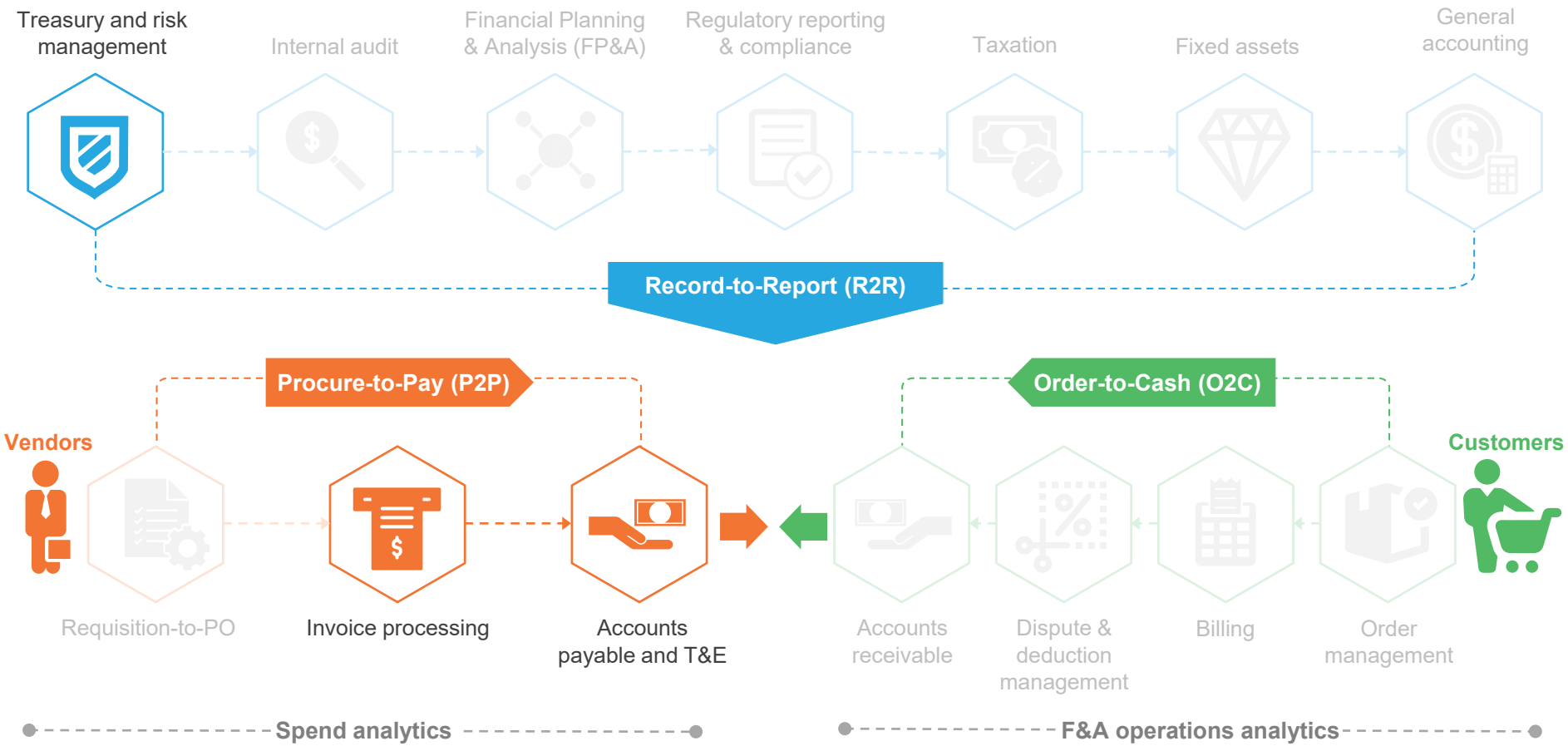
- Overall, capability is measured through a combination of 5 factors - vision & strategy, implementation, organization and talent, technology, and resourcing
- Each of these is further broken down into sub-dimensions which can be measured as falling in one of four buckets depending on the maturity level: basic, typical, advanced and pinnacle

1 Refer to pages 106-132 for the detailed model, dimensions, and sub-dimensions

Illustration: Consider an organization evaluating its Finance & Accounting (F&A) business function for automation, and a selection of processes in particular …

STEP 1

Finance and Accounting (F&A) value chain



… AP, treasury and risk management, and management reporting and analysis; when evaluating sub-processes for automation …

STEP 1

Detailed description of processes within F&A

Capital budgeting
- Strategy
- Administer approval process
- Project reporting

Management reporting and analysis
- Strategy
- Regular reporting
- Data extraction
- Analysis
  - Ad hoc analysis and special projects
  - Cost accounting

Regulatory reporting and compliance
- Strategy
- Data extraction
- Management Discussion & Analysis (MD&A)
- Regulatory reporting
- Compliance program

Strategy
F&A strategy including tax and risk position
Accounting policy and control
Shareholder relations
M&As/divestitures
External reporting

Internal audit
Strategy
Establish annual audit plan
Conduct audits
Reports and recommendations

Strategy
Judgment-intensive
Transaction-intensive

Budgeting/forecasting
Strategy
Budget analysis and approval process
Build-line item budget
Forecast roll-ups and consolidation
Forecast analysis and approval process

Treasury & risk management
- Strategy
- Bank relations and administration
- Cash management and forecasting
- Investments
- Debt management
- Foreign exchange
- Treasury risk management

Tax
- Strategy
- Tax accounting
- Tax planning and analysis
- Tax compliance
- Tax audit

Accounts receivable
- Strategy
- Customer set up
- Billing
- Cash applications
- Credit and collections
- Customer inquiries
- Reporting

General accounting
- Strategy
- Process general entries
- Account reconciliations
- Inter-company accounting
- Prepare trial balances
- Perform closings
- Manage consolidations
- Cost accounting

Fixed assets
- Maintain master data
- Merger, acquisition, and consolidation of assets
- Post depreciation

Accounts payable and T&E
- Strategy
- Maintain master data
- Process payment requests
- Process T&E claims
- Administer EDI /P-card
- Month-end close
- Vendor inquiries
- Reporting

… processes with high running costs, a large volume of transactions, and high automation potential should be considered for further evaluation

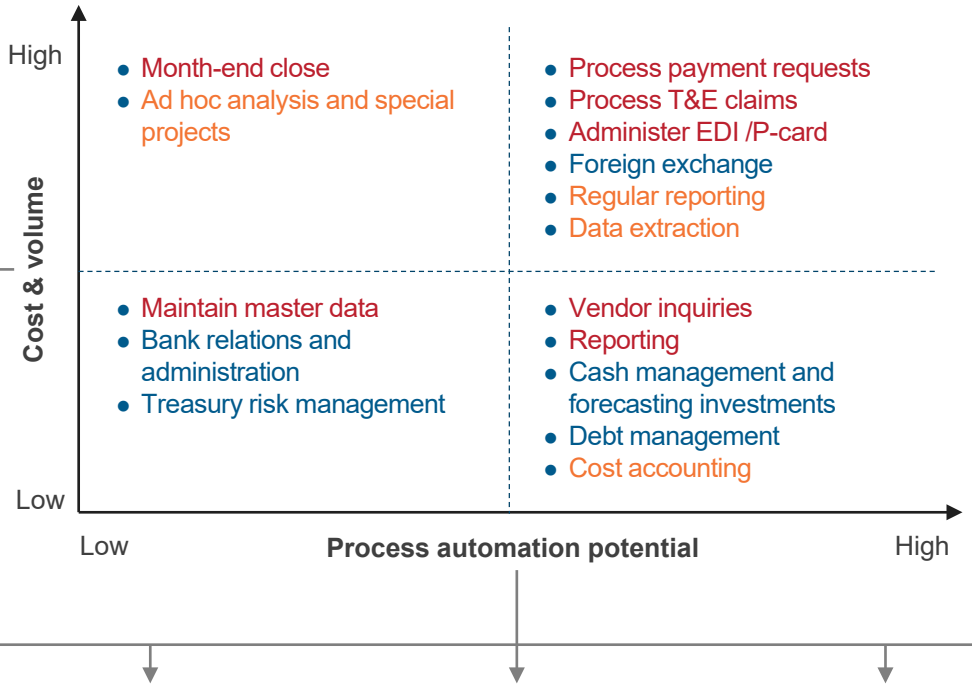
STEP 1

ILLUSTRATIVE

The exhibit shows a framework for assessing F&A processes for automation; this is the kind of framework organizations can use to identify and prioritize processes for business case development

Process key:

- Treasury and risk management
- Accounts payable and T&E
- Management reporting & analysis



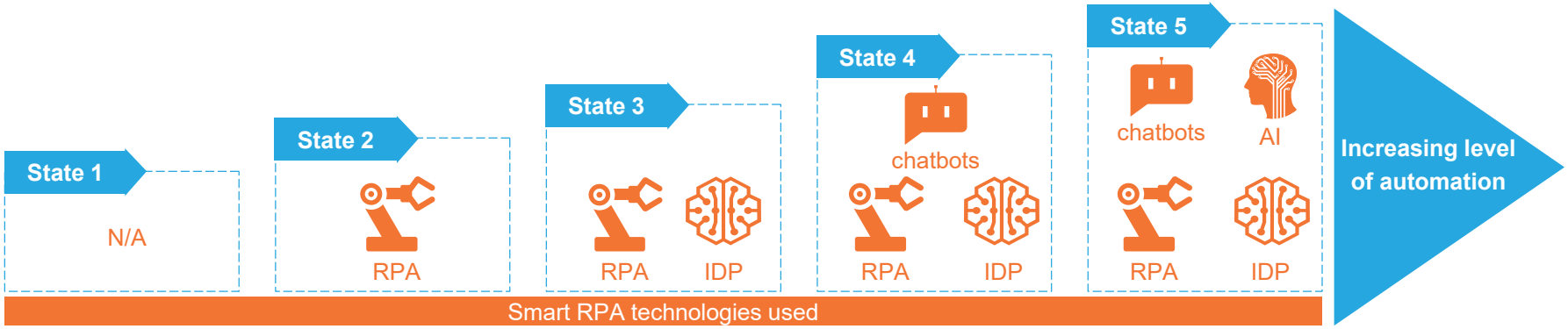
Cost & volume
Incurred cost per transaction and volume of transactions

Sub-processes in the upper right-hand quadrant would be top priority for further consideration, given their high automation potential and the overall current cost of operations

Process complexity (judgment-intensive)	Extent of digitization	Technology fragmentation	Scale of process/ operations	Existing process health
Degree of human judgment, expertise, and experience required	Degree of digitized data and digital infrastructure already in existence	Level of fragmentation in technology	Scale of operations for the process (frequency, volume, etc.)	Measure of the extent to which the process is well defined and structured

Precursor to the business case – examining the target state options and potential use cases

STEP 2



Use cases (all examples additive to previous state)

State 1	State 2	State 3	State 4	State 5
None – business as usual	• Robot(s) processing a large number of emails, monitoring the inbox 24/7. When a new email arrives, the robot downloads the invoices attached to a shared drive and adds a reference for each one to an orchestrator queue • Vendor account reconciliation	Use of IDP to digitize and extract data from invoices. • Exception handling and verification through human in the loop	Chatbots to handle basic vendor inquiries and create tickets and/or transition to live agents when required	Exception handling through machine learning-based algorithms. ML-based predictive analytics to provide inputs on vendor payment patterns, need for follow ups, payment terms suggestions, etc.

Consider the invoice processing as an example. The process consists of four tasks: invoice data extraction, invoice exception handling, vendor account reconciliation, and vendor inquiry. With increasing sophistication of Smart RPA technologies, larger parts of the process can be automated

Building a business case – what is the right outcome target state?

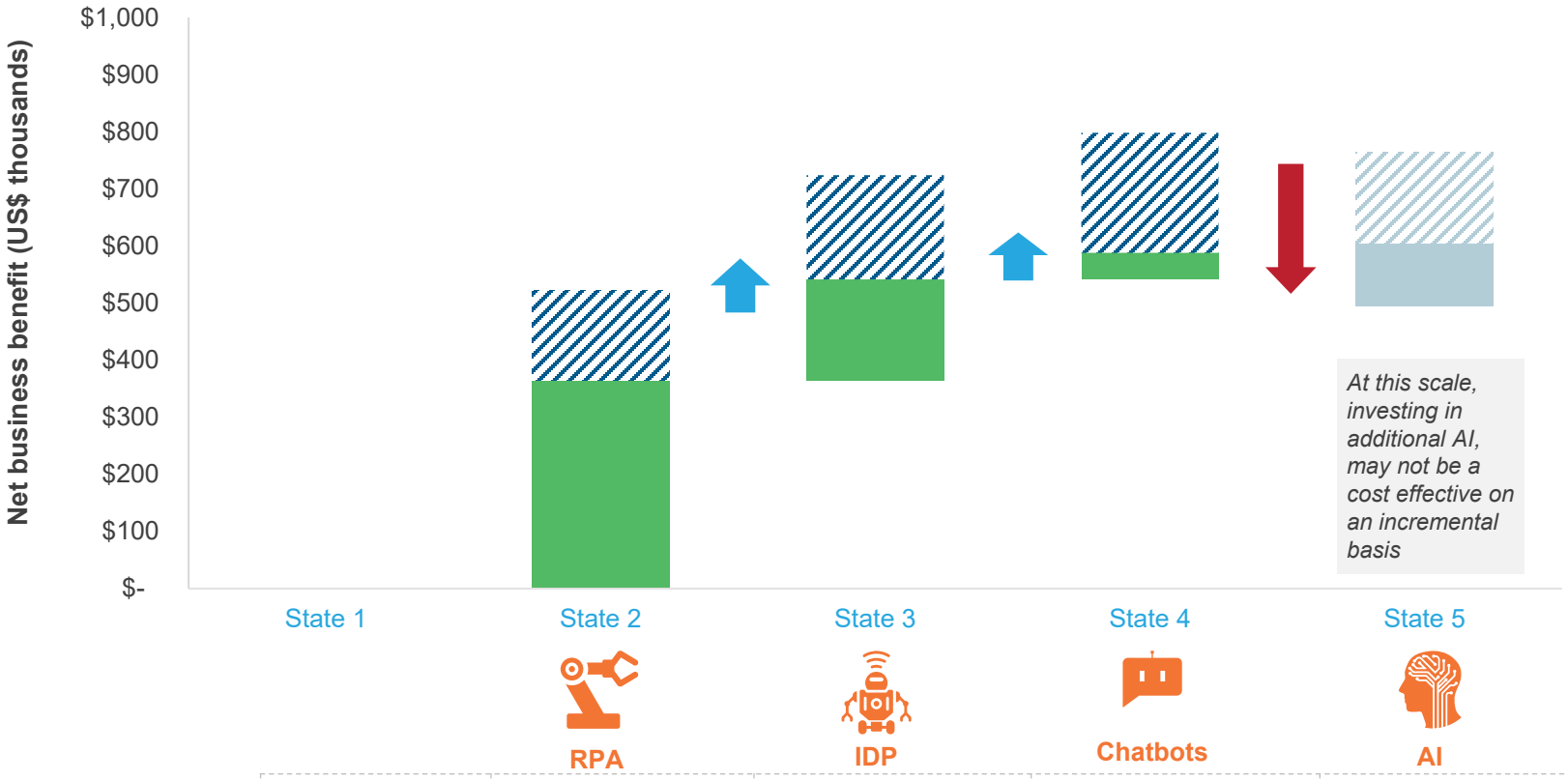
Numerous automation options can be included with Smart RPA; the key is to fully understand all of the available components against the likelihood of diminishing returns

STEP 2

Process example 1: Invoice processing; **44 initial FTEs**

Net business benefit including only hard criteria such as FTE reduction

Net business benefit including both hard and soft criteria such as employee experience gains, and customer satisfaction gains



Smart RPA use cases (additive to previous state)				
None – business as usual	• Email monitoring and downloads • Vendor account reconciliation	Digitize and extract data from invoices	Chatbots to handle basic vendor inquiries	• Exception handling • Predictive analytics

Everest Group® RESEARCH

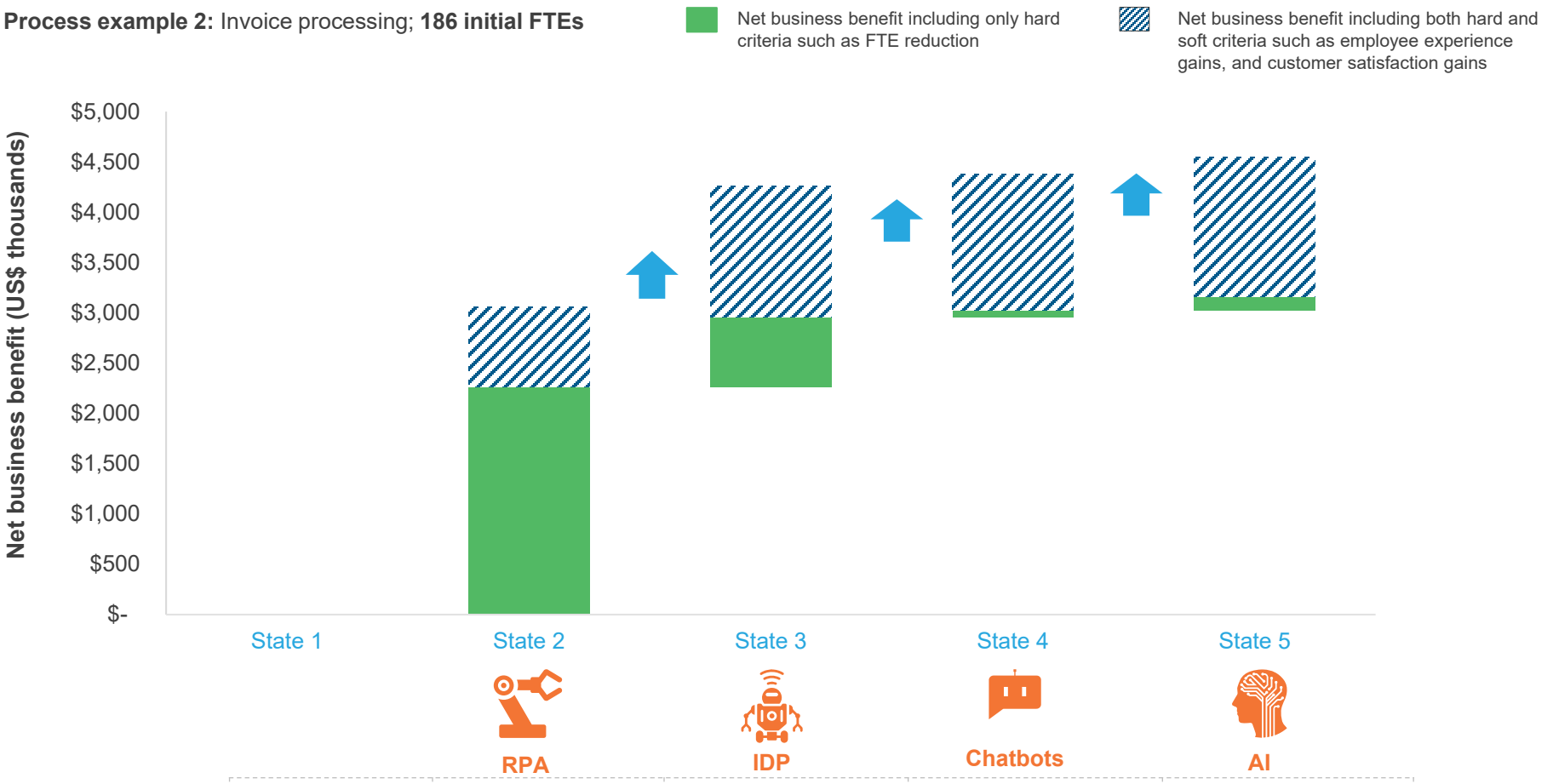
EGR-2018-38-R-2824

Building a business case – what is the right outcome target state?

Numerous automation options can be included with Smart RPA; the key is to fully understand all of the available components against the likelihood of diminishing returns

STEP 2

Process example 2: Invoice processing; **186 initial FTEs**



Smart RPA use cases (additive to previous state)				
None – business as usual	• Email monitoring and downloads • Vendor account reconciliation	Digitize and extract data from invoices	Chatbots to handle basic vendor inquiries	• Exception handling • Predictive analytics

Everest Group® RESEARCH

EGR-2018-38-R-2824

Having determined an achievable outcome, enterprises should then seek to map out corresponding capability requirements to achieve the desired outcome

STEP 3

Mapping capabilities required to support outcomes – extract[1]

ILLUSTRATIVE

Required maturity level

Enterprise Smart RPA Capability Maturity Model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
C. Technology	OCR / Computer vision	Basic OCR for digitizing content; typed text	OCR + ML + rules; Document classification, data capture, and extraction using machine learning, template-based rules, and validation; block letters (typed or handwritten)	OCR + Auto ML + NLP; Document classification, data capture, and extraction using real-time / active learning, Auto ML, NLP, intent analysis, rules, and validation; block letters (typed or handwritten)	OCR + Domain ontology + Deep Learning + Auto ML + NLP; Document classification, data capture, and extraction using real-time / active learning, Auto ML, NLP, intent analysis, rules, and validation; cursive writing with good level of accuracy
	Analytics	Reporting analytics	Descriptive analytics + (reporting)	Predictive analytics + (reporting + descriptive)	Prescriptive analytics + (reporting + descriptive + predictive)
	Chatbots	Simple, rules-based	Rules-based + text analysis	ML + NLP + sentiment analysis + emotional analysis + next-best-action	Deep learning + Auto ML + NLP + sentiment analysis + emotional analysis + contextual and domain ontology

1 Refer to pages 108-129 for the detailed Smart RPA capability maturity model

Everest Group organizes Smart RPA capabilities according to five key components of enterprises' Smart RPA journey

STEP 3

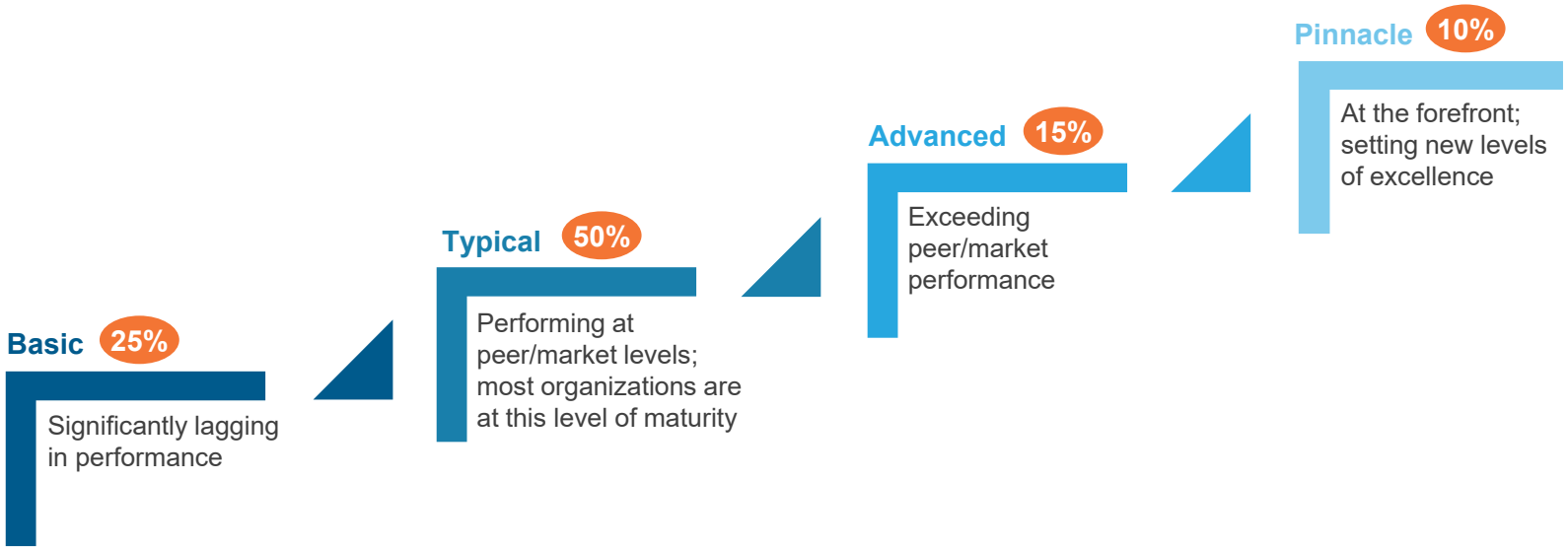
Journey components	Key focus area
 Vision & strategy	• To understand the vision of the organization for Smart RPA and the drivers behind its adoption • To assess the organization's readiness for Smart RPA adoption from a process, risk, and security perspective
 Implementation	• To assess the scale and scope of Smart RPA adoption along with the pace at which Smart RPA has been adopted – in terms of software robots deployed and time taken to scale up from pilots
 Organization & talent	• To assess the governance model for Smart RPA and the extent of collaboration among the implementing groups • To analyze the talent management strategy for the organizational change caused by Smart RPA adoption
 Technology	• To assess the extent to which various components of Smart RPA technologies such as process mining, computer vision, and chatbots are being developed • To assess the level of sophistication of various Smart RPA technologies deployed
 Resourcing	• To assess the sourcing strategy, training, and education programs for various Smart RPA skills

Enterprise Smart RPA capability is assessed across four maturity levels

STEP 3

The four capability maturity levels

Approximate share of enterprises at each maturity level XX%



	Basic	Typical	Advanced	Pinnacle
Description	• Lagging behind peers in capability performance • Poorly controlled and reactive • Adopted in an ad hoc manner based on opportunities that emerge • No major investment in terms of time and effort to improve the capability • Primarily delivers some cost impact	• Capability performance at current peer/market levels • Time and effort are put forth for some basic management and controls • Some necessary disciplines are in place • Delivers cost impact and some business outcomes	• Capabilities exceed typical performance levels • Significant time and effort are put forth to develop advanced capabilities • Delivers significant business outcomes	• Differentiated and best-in-class capabilities • Exemplifies the way to success • Well-planned and organized, thus setting the stage for innovation • Delivers best-in-class outcomes and strategic advantage

The requirement must be assessed and mapped across the multiple dimensions of an enterprise's capability maturity[1] (page 1 of 3)

STEP 3

Enterprise Smart RPA capability maturity model

Journey components	Capability elements	Basic	Typical	Advanced	Pinnacle
A. Vision & strategy	Primary drivers of Smart RPA adoption	Business case focused on generating quick cost savings	Business case focused on increasing productivity, efficiency, and quality, or address specific tactical	Business case is focused on improving regulatory compliance, employee experience, and customer	Business case is focused on disrupting market, innovating business model, and growing revenue in
	Fundin sponso				

Enterprise Smart RPA capability maturity model

Journey components	Capability elements	Basic	Typical	Advanced	Pinnacle
A. Vision & strategy	Project initiation	Siloed approach with no CoE support	Projects are initiated by global shared services OR local/regional business units with limited CoE support	Projects are initiated by global business functions OR global shared services OR local/regional business units; multi-pronged approach with	Projects are initiated by corporate OR global business functions OR global shared services OR local/regional business units; multi-pronged approach with
	IT ali				

Enterprise Smart RPA capability maturity model

Journey components	Capability elements	Basic	Typical	Advanced	Pinnacle
A. Vision & strategy	Security & risk prepar RPA	No major changes	Some changes to	Proactively evaluated	Included security and

Enterprise Smart RPA capability maturity model

Journey components	Capability elements	Basic	Typical	Advanced	Pinnacle
B. Organization & talent	Smart RPA team structure	No dedicated Smart RPA team within the organization	Decentralized Smart RPA operations; each business unit has its own Smart RPA team	Centralized Smart RPA team which defines and implements Smart RPA initiatives for the entire	Hybrid Smart RPA operations; decentralized Smart RPA teams from
	Type of Smart RPA CoE				
	Scope of the Smart RPA CoE				
	Sharing/pooling of Smart RPA skills				

Enterprise Smart RPA capability maturity model

Journey components	Capability elements	Basic	Typical	Advanced	Pinnacle
B. Organization & talent	Roles and responsibilities of CoE	Drive the roll-out and implementation of Smart RPA projects and ensure coordinated communication with relevant stakeholders; loosely defined roles, responsibilities, and skill sets required	Ensuring quality and compliance through well-defined standards, procedures, and guidelines, owned and developed by the CoE; Drive the roll-out and implementation of Smart RPA projects and ensure coordinated communication with relevant stakeholders; some key roles and responsibilities are well-defined	Approves all automation procedures before they are put into production, assesses suitability of Smart RPA vs. other Smart IT tools for use cases + ensuring quality and compliance through well-defined standards, procedures, and guidelines, owned and developed by the COE + drive the roll-out and implementation of Smart RPA projects, and ensure coordinated communication with relevant stakeholders; well-defined roles, responsibilities, and skills sets required	Smart RPA training and education program for developing talent + approves all automation procedures before they are put into production, assesses suitability of Smart RPA Vs other Smart IT tools for use cases + ensuring quality and compliance through well-defined standards, procedures and guidelines, owned and developed by the COE + drive the roll-out and implementation of Smart RPA projects, and ensure coordinated communication with relevant stakeholders; well-defined roles, responsibilities, and skills sets required that are regularly reviewed and optimized

1 Refer to pages 108-129 for the detailed Smart RPA capability maturity model

The requirement must be assessed and mapped across the multiple dimensions of an enterprise's capability maturity (page 2 of 3)

STEP 3

Journey components	Capability
A. Vision & strategy (10 capabilities) 	A1. Primary drivers of Smart RPA adoption A2. Funding/sponsorship A3. Project initiation A4. IT alignment A5a. Security and risk preparedness for Smart RPA A5b. Security and risk preparedness for Smart RPA (factors considered) A6. Factors considered for security and risk preparedness for Smart RPA A7. Metrics and KPIs for measuring benefits/impact of Smart RPA A8. Metrics and KPIs for measuring effectiveness of Smart RPA initiative A9. Targeted process types for Smart RPA adoption A10. Changes to business processes for Smart RPA adoption
B. Organization & talent (12 capabilities) 	B1. Smart RPA team structure B2. Type of Smart RPA CoE B3. Scope of the Smart RPA CoE B4. Sharing/pooling of Smart RPA skills B5. Roles and responsibilities of CoE B6. Reusability of automations B7. Primary use of process data from automations B8. Focus on tracking/optimizing the effectiveness of the program B9. Focus on tracking/optimizing the benefits achieved B10. Level of employee engagement B11. Availability of training/learning and awareness programs B12. Nature of impact on employees

1 Refer to pages 108-129 for the detailed Smart RPA capability maturity model

The requirement must be assessed and mapped across the multiple dimensions of an enterprise's capability maturity (page 3 of 3)

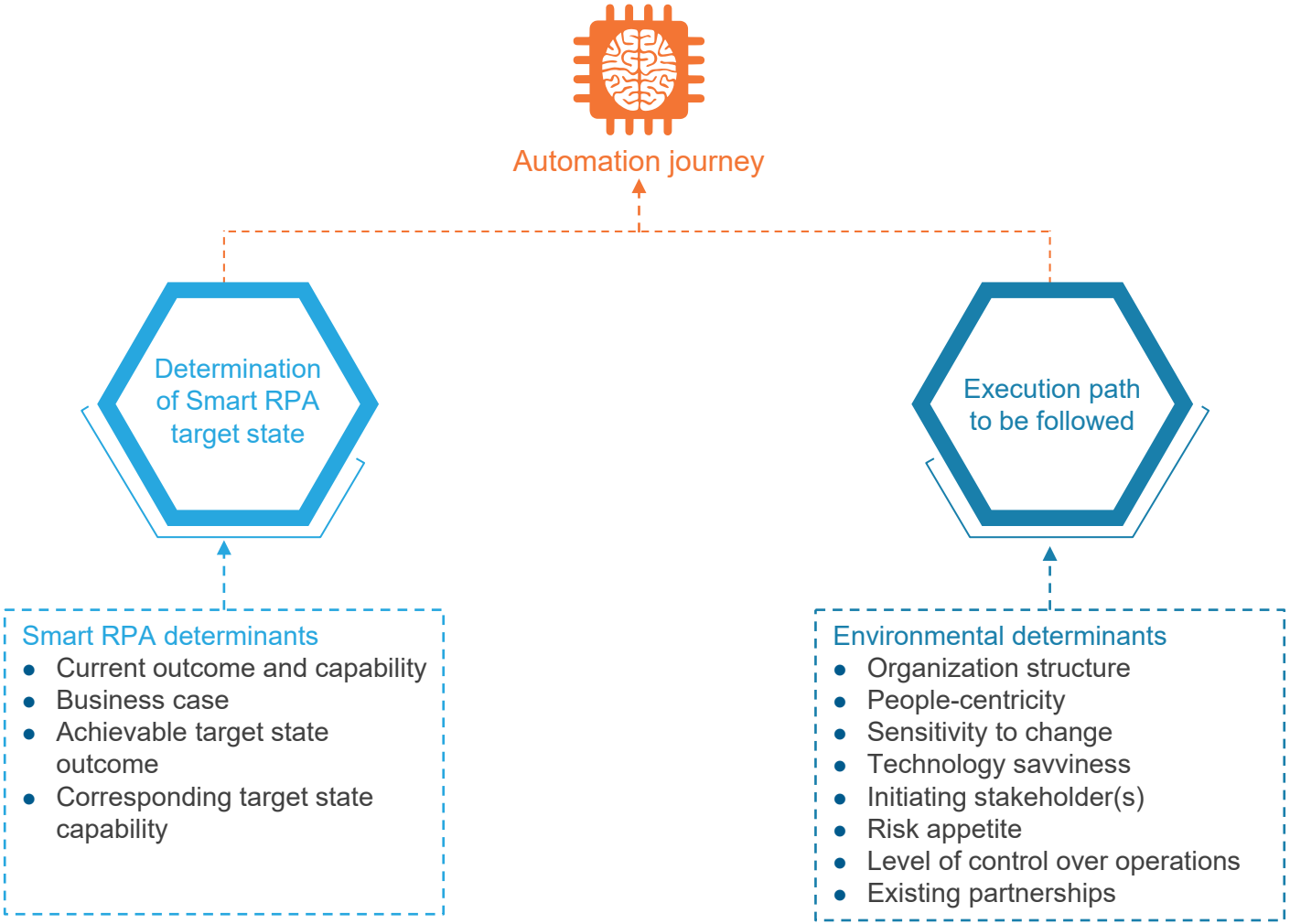
STEP 3

Journey components	Capability elements
C. Technology (8 capabilities) 	C1. RPA C2. Pre-built, reusable templates and automations from vendors or marketplaces C3. OCR/Computer vision C4. Analytics C5. Chatbots C6. Orchestrator/BPM C7. Hosting type C8. Process mining
D. Resourcing (2 capabilities) 	D1. Sourcing of Smart RPA talent/skills D2. Smart RPA training and education
E. Implementation – scale, scope, and speed (4 capabilities) 	E1. Distribution of Smart RPA projects by stage E2. Scale of Smart RPA adoption E3. Scope of Smart RPA deployments across functions E4. Speed of Smart RPA adoption

1 Refer to pages 108-129 for the detailed Smart RPA capability maturity model

The automation journey itself will take different forms based on two sets of determinants – Smart RPA-related (science) and environmental (art)

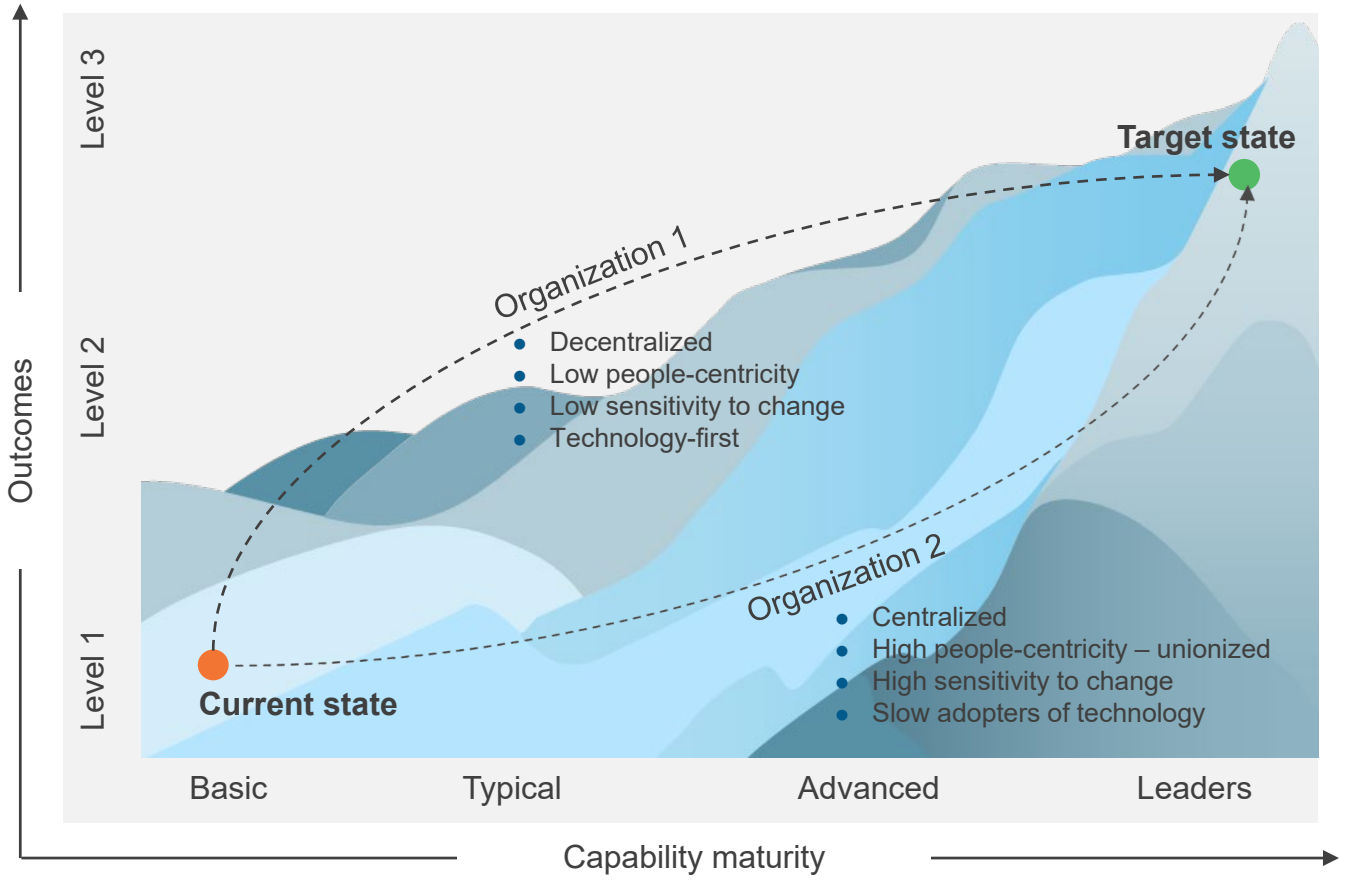
STEP 4



Given the same start and target states, enterprises' culture, structure, and other environmental determinants influence the routes they take

STEP 4

ILLUSTRATIVE

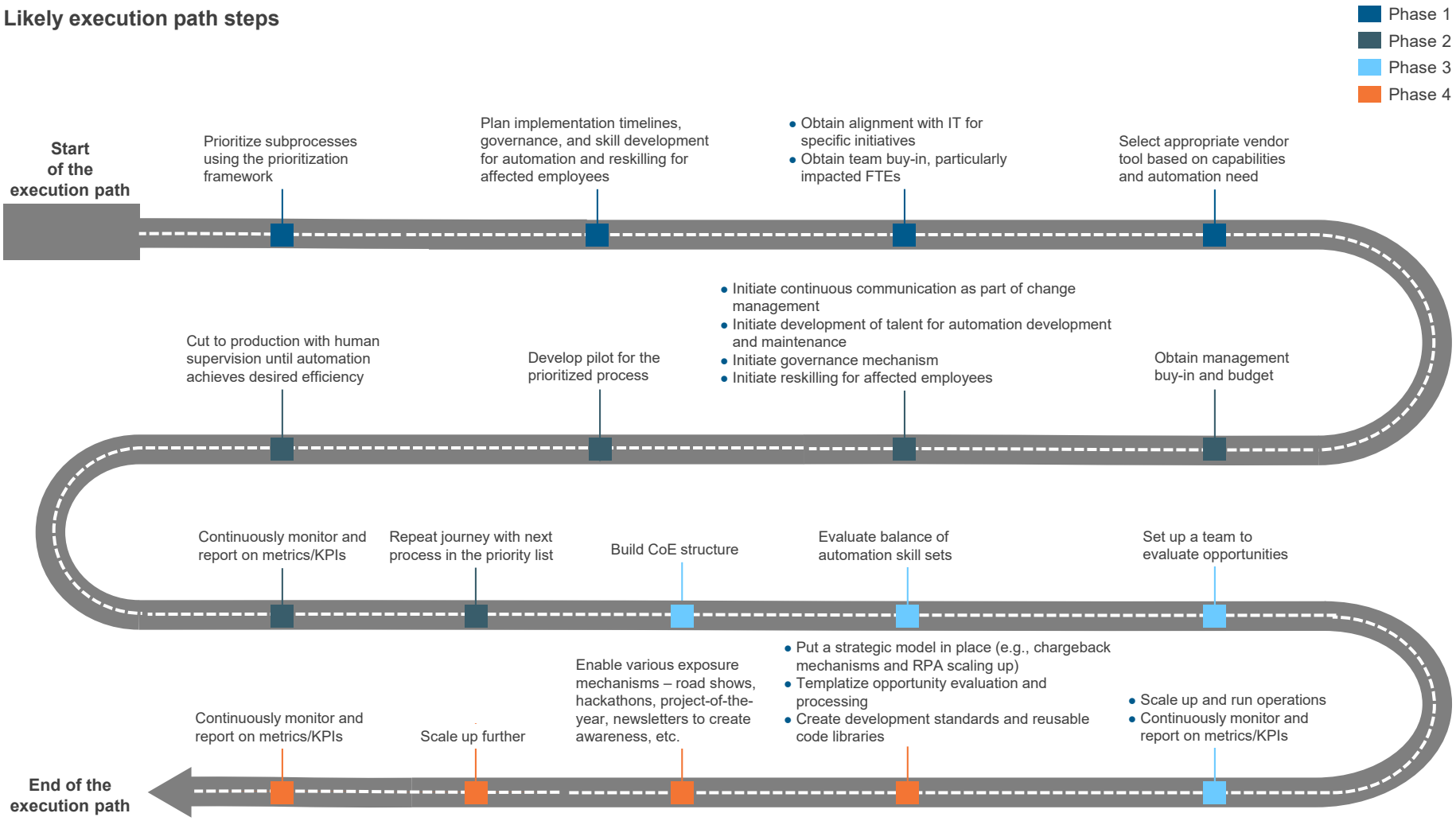


Two enterprises starting their journeys at the same low level of automation maturity and wishing to reach the same advanced target state may take significantly different execution paths; the path would largely depend on environmental determinants.

While all enterprises will likely follow a set of steps in the execution path …

STEP 4

Likely execution path steps



… the nature of those steps will vary based on environmental determinants[1]

STEP 4

#	Steps	Determinants	Path options
1	Prioritize subprocesses using the prioritization framework	• Sensitivity to change • Risk appetite • Current outcome & capability	• Implement one process at a time • Implement logical groups of processes sequentially • Big bang implementation
2	Plan implementation governance and skill automation and resk employees		
3a	Obtain alignment wit initiative		
3b	Obtain team buy in, FTEs		
4	Select appropriate v capabilities and autc		

#	Steps	Determinants	Path options
5	Obtain management buy in and budget	• Organization structure • Initiating stakeholder(s)	• Buy in and budget at team lead level • Buy in and budget at BU level • Buy in and budget centrally
6a	Initiate continuous communication as part of change management	• Sensitivity to change • People centricity	• Low to no communication • Medium frequency of communication • Frequent communication
6b	Initiate development of talent for automation development and maintenance	• Control over operations • Technology savviness	• Develop talent in-house • Use a combination of in-house and
6c	Initiate governance		
6d	Initiate reskilling fo		

#	Steps	Determinants	Path options
7	Develop pilot for the prioritized process	NA	NA
8	Cut to production with human supervision until au desired efficiency	• Risk appetite	• Always employ a human in the loop
9	Continuously monit metrics/KPIs		
10	Repeat journey witl priority list		

#	Steps	Determinants	Path options
11	Build up scaling up structure	• Organization structure	• Centralized operations • Hub and spoke model • Decentralized scaling up operations
12	Evaluate balance of automation skill sets	• Control over operations	• Develop talent in-house
13	Set up a team to e		
14a	Scale up and run c		
14b	Continuously moni metrics/KPIs		

#	Steps	Determinants	Path options
15a	Put a strategic model in place (e.g., chargeback mechanisms and RPA scaling up)	NA	NA
15b	Templatize opportunity evaluation and processing	NA	NA
15c	Create development standards and reusable code libraries	NA	NA
16	Enable various exposure mechanisms – road shows, hackathons, project of the year, and newsletters to create awareness	NA	NA
17	Scale up further	NA	NA
18	Continuously monitor and report on metrics/KPIs	NA	NA

1 Refer to pages 173-177 in the Appendix for a detailed list

Use case: Consider P2P automation for two distinct organizations with different characteristics, both seeking to reach similar target states from similar current states

STEP 4

Scope

Consider two organizations with the same current state and achievable target state

- Current state: The organizations run a single ERP system with a workflow system for the P2P process. Neither have implemented any RPA or AI-based automation. Invoice and delivery notes are manually entered from scanned PDF or image-based documents. Each has five FTEs currently employed in each task
- Achievable target state: 60% automated entry for delivery notes and invoices

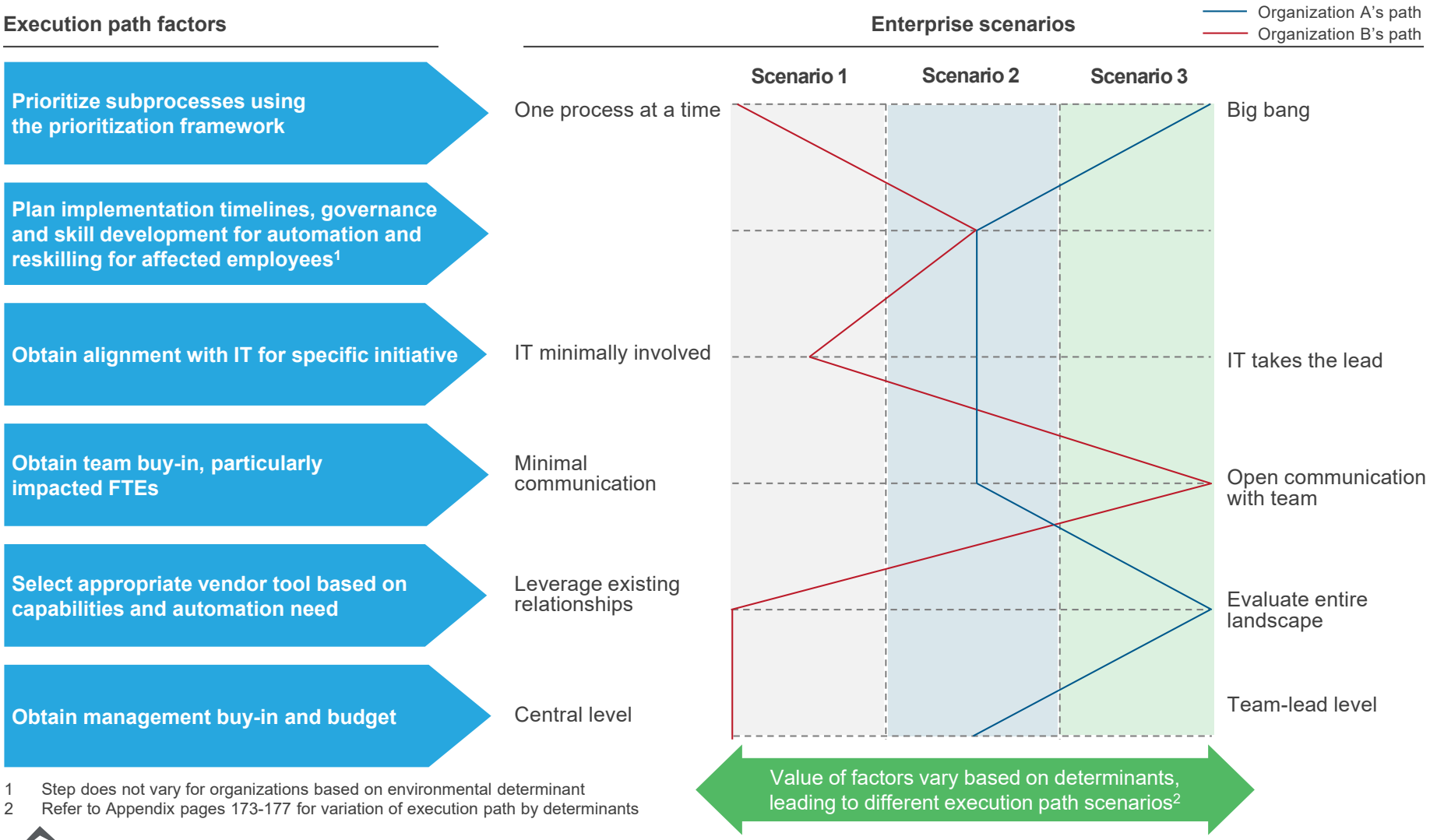
The ideal execution path for each organization would depend on environmental determinants such as those detailed below

Environmental determinants

	Organization A – digital-born e-commerce firm	Organization B – conservative regional bank
Organization structure	Decentralized	Centralized
People-centricity	Low people-centricity	High people-centricity – unionized
Sensitivity to change	Fast changing organization/sector	High sensitivity to change
Technology savviness	Technology-first	Slow adopters of technology
Initiating stakeholders	Operations analysts	Operations analysts
Risk appetite	High risk appetite	Low risk appetite; heavy regulation
Level of control over operations	Low for non-core operations	High for all operations
Existing partnerships	None on the automation front	Existing relationship with automation vendor

Execution paths differ based on environmental determinants
(page 1 of 2)

STEP 4



1 Step does not vary for organizations based on environmental determinant
2 Refer to Appendix pages 173-177 for variation of execution path by determinants

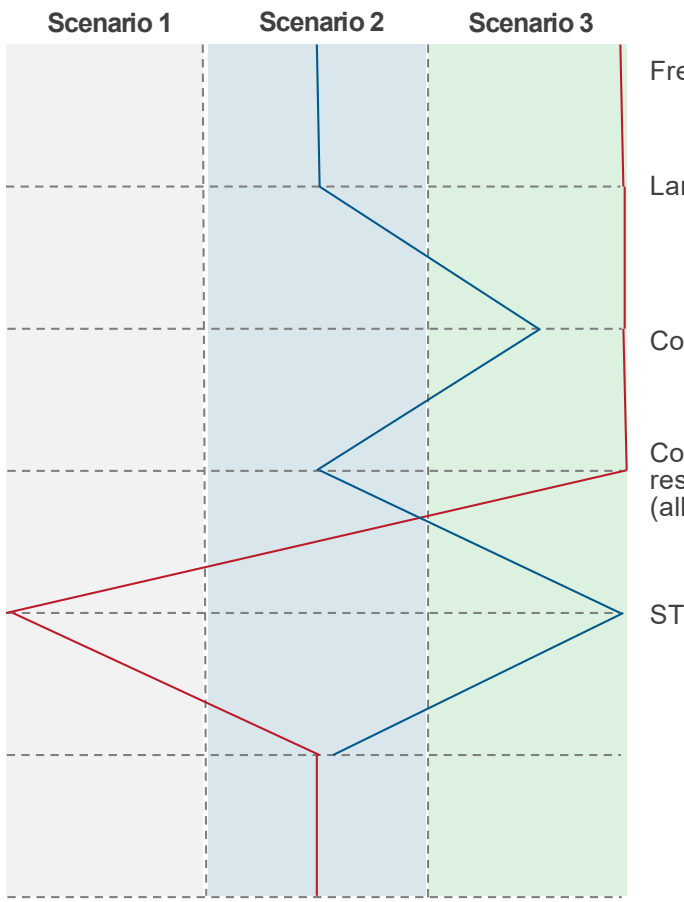
Execution paths differ based on environmental determinants
(page 2 of 2)

STEP 4

Execution path factors

- **Initiate continuous communication as part of change management**
- **Initiate development of talent for automation enhancement and maintenance**
- **Initiate governance mechanism**
- **Initiate reskilling/upskilling for affected employees**
- **Cut to production with human supervision until automation achieves desired efficiency**
- **Continuously monitor and report on metrics/KPIs[1]**
- **Repeat journey with next process in the priority list[1,2]**

Enterprise scenario



Value of factors vary based on determinants, leading to different execution path scenarios[2]

1 Step does not vary for organizations based on environmental determinant
2 In this particular instance, both journeys end with phase 2 because the scope of automation is relatively small
3 Refer to Appendix pages 173-177 for variation of execution path by determinants

Having mapped the best-fit execution path, enterprises could leverage a variety of tools and best practices to develop an execution strategy and accelerate their Smart RPA journeys

STEP 5

Areas that are critical to successful execution of enterprises' Smart RPA journeys

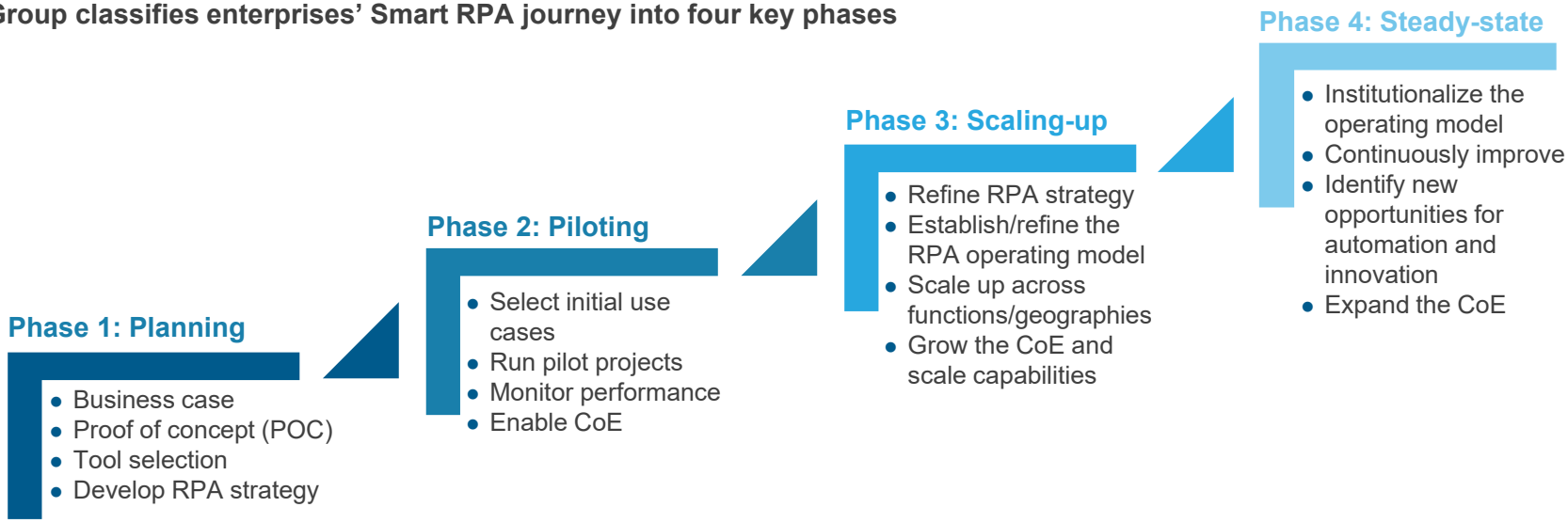
1. Identifying and prioritizing processes for Smart RPA adoption
2. Optimizing processes before automating
3. Selecting enterprise-grade Smart RPA tools
4. Establishing and executing a Smart RPA CoE
5. Identifying and sourcing Smart RPA skills
6. Developing an effective change management program

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- **Accelerating the Smart RPA journey**
  - **Identifying and prioritizing processes for Smart RPA adoption**
  - Optimizing processes before automating
  - Selecting enterprise-grade Smart RPA tools
  - Establishing and executing a Smart RPA CoE
  - Identifying and sourcing Smart RPA skills
  - Developing an effective change management program
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

As an enterprise moves through each of the four phases of Smart RPA adoption, appropriate processes should be prioritized for implementation

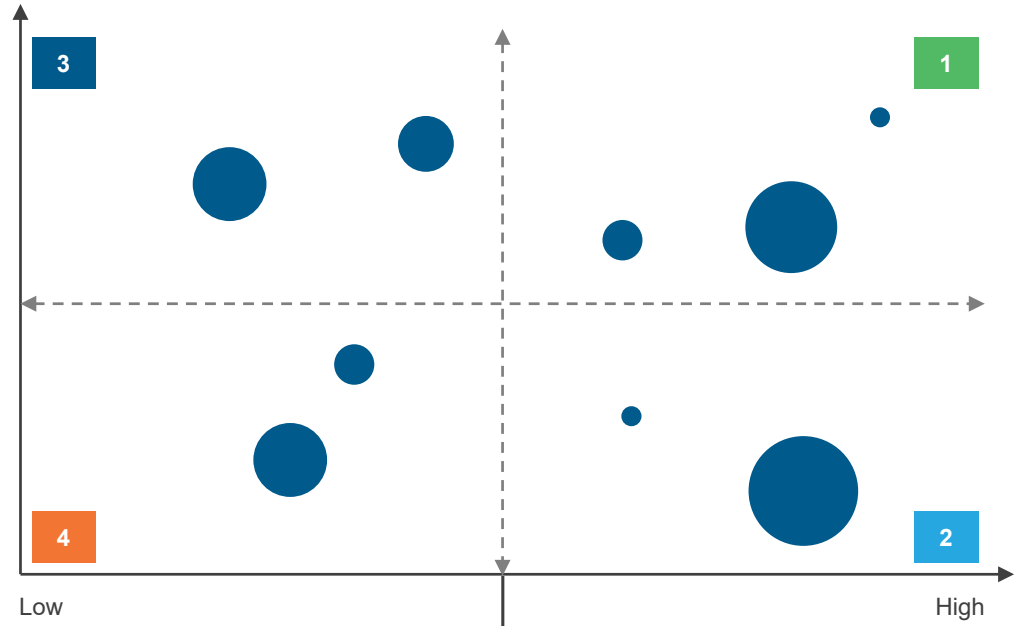
Everest Group classifies enterprises' Smart RPA journey into four key phases



	Phase 1: Planning	Phase 2: Piloting	Phase 3: Scaling-up	Phase 4: Steady-state
Key focus	• Overcome conceptual barriers to automation and build RPA awareness • Identify opportunities • Develop the business case • Align stakeholders (such as senior management and IT) to get backing for the POC • Select tools/partners • Identify skills sets required, especially for AI adoption • Develop an implementation approach and roadmap	• Get executive backing and funding • Develop/acquire Smart RPA skills • Select and prioritize processes • Set-up infrastructure and design architecture • Implement initial use cases / pilots • Monitor performance • Enable a CoE • Raise awareness and enable upskilling/reskilling	• Act on lessons learned to refine the RPA strategy and establish/refine the RPA operating model • Grow/advance CoE maturity • Monitor and review CoE performance • Scale training and teams • Scale up across functions/geographies • Scale up upskilling/reskilling of resources	• Ensure operations with robust governance and controls • Rationalize the footprint and optimize operations • Integrate a culture of innovation and design thinking across the organization • Continuously identify new opportunities for automation and innovation

Processes should be prioritized for automation using a structured, repeatable framework

The framework below helps identify high priority processes for Smart RPA based on overall automation potential and extant cost of operations. Additionally, the relative ease of implementation consideration helps prioritize within quadrants.



Cost & volume

Incurred cost per transaction and volume of transactions in a year

Process complexity (judgment-intensive)

Degree of human judgment, expertise, and experience required; negatively correlated to the potential to automate

Extent of digitization

Degree of digitized data and digital infrastructure already in existence; reduces avenues for application of further automation solutions

Technology fragmentation

Level of fragmentation in technology. Higher fragmentation leads to more manual processing; increasing potential for automation

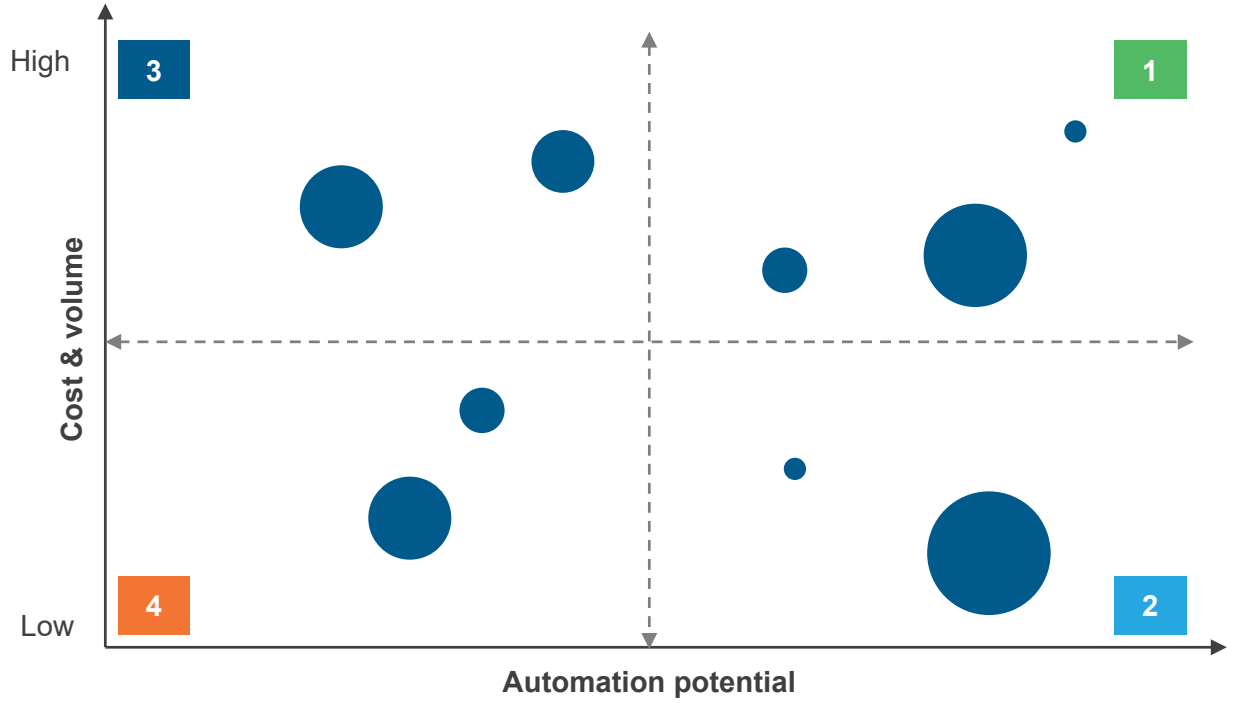
Scale of process/ operations

Scale of operations for the process (frequency, volume, etc.). Larger scale implies higher ROI for automation projects in particular processes

Existing process health

Measure of the extent to which the process is well-defined and structured. Better health implies greater amenability to automation

For phase 1 and phase 2, easily implementable processes that deliver the maximum net benefit should be considered; for further scale, other processes can be considered as well



Bubble size indicates the ease of implementation for a particular process

Phases 1 and 2

- Select processes from quadrant 1 for phases 1 and 2
- Because phase 1 is the POC, it should ideally address the process within the high-priority process quadrant (quadrant 1) that is easiest to implement
- For phase 2, organizations can choose between easily implementable processes in quadrant 1 or more complex process, depending on confidence gained from POC and other organizational nuances

Phases 3 and 4

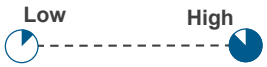
- For phases 3 and 4, i.e., when scaling up beyond pilots, quadrant 1 continues to be the first priority, typically moving from easier- to harder-to-implement processes
- Upon exhaustion of processes in quadrant 1, processes in quadrants 2 and 3 can be selected (those processes for which the business case still makes sense)
- Typically, quadrant 4 processes are left as is, even in the high maturity phases, as there likely is not a strong business case for them. As technology matures, some of these processes may become attractive from a business case perspective, at which point they can be considered

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
  - Identifying and prioritizing processes for Smart RPA adoption
  - **Optimizing processes before automating**
  - Selecting enterprise-grade Smart RPA tools
  - Establishing and executing a Smart RPA CoE
  - Identifying and sourcing Smart RPA skills
  - Developing an effective change management program
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

After identification of the appropriate use-case for automation, enterprises need to analyze the process to decide if it needs optimization/reengineering

Enterprises must not jump directly to the reengineering phase before automating; they should fully analyze process metrics before concurring on optimization



Key process metrics to consider	Minimum level for the metric to justify optimization	Final decision
Process variations	Invariably, there will be process variations across business units or geographies; however, variations should not be to the level that they significantly hamper scalability	
Multiple stakeholders/departments involved	There is a high likelihood that the process incorporates a lot of redundancies and is not lean if there are multiple hand-offs involved, which should justify optimization	Automate as-is without reengineering
Information travel between activities and security concerns	Data travel and security concerns should be indispensably addressed, especially for sensitive customer-facing businesses such as insurance and banking	Partially reengineer the process before automating
Process sensitivity to any underlying systemic change	If the process is even partially sensitive to any underlying infrastructure or configuration change, at least partial optimization should be considered to avoid setbacks during automation	Re-envision and reengineer the entire process
Regulatory non-intervention when modifying processes	Regulatory restraints to optimization could be a big deterrent for enterprises to modify the as-is process state. These should be considered before deciding to reengineer	

What does process reengineering entail for hassle-free Smart RPA deployments?

Continuous improvement

Phases in reengineering	In-depth analysis of as-is state	Process optimization	Embedding automation and testing
Key activities involved	• Break the process into micro activities and lay out the information travel between activities • Document the process' as-is state • Leverage operational tools such as Lean methodology to identify process redundancies and waste • Establish a desired state for the process • Identify the gap for the process between the current state to the desired state and note the modifications required – such as a need to digitize paper-based data – before leveraging IDP tools	• Establish the optimization drivers. The drivers could be business-specific such as process that are incurring higher costs than necessary, or causing customer dissatisfaction or employee disengagement • Rate the process on the key metrics outlined earlier to ascertain optimization feasibility • If the process is selected for optimization, identify key stakeholders and the workflow involved and consult them before making modifications • Employ operational tools again to eliminate process redundancies and inefficiencies and document the changes	• Chart out the human and robot touchpoints in the process and create an automated workflow • Check the to-be-automated activity's immediate downstream and upstream activities to ensure seamless execution • Define process performance metrics, such as turnaround time or number of exceptions occurring, to evaluate the efficacy of the previous steps • After executing the automated process, note any setbacks or exceptions • Go back to the first phase for further improvements, if required

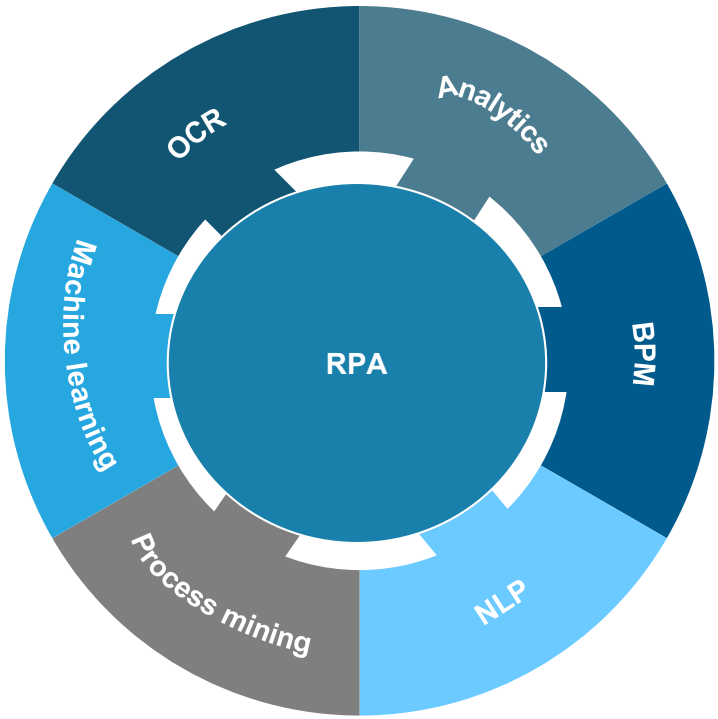
Should be undertaken regardless of automation initiative to increase organizational readiness

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
  - Identifying and prioritizing processes for Smart RPA adoption
  - Optimizing processes before automating
  - **Selecting enterprise-grade Smart RPA tools**
  - Establishing and executing a Smart RPA CoE
  - Identifying and sourcing Smart RPA skills
  - Developing an effective change management program
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

In order to build the most efficient ecosystem of Smart RPA, enterprises need to consider the following five factors

An integrated Smart RPA ecosystem

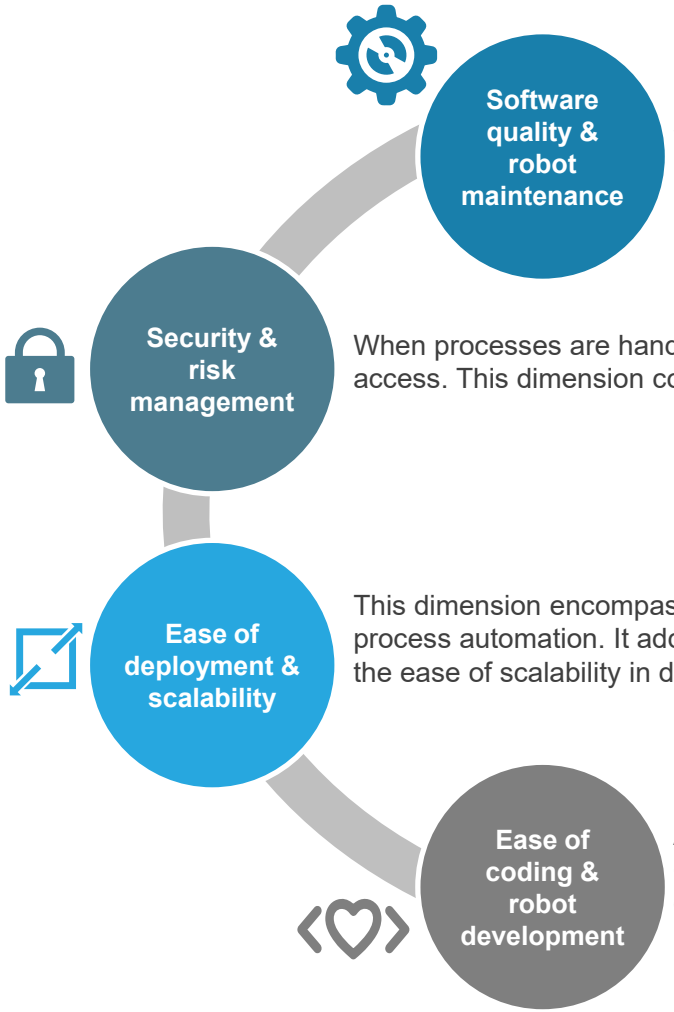


Key factors to consider when selecting an enterprise-grade RPA platform capable of delivering an integrated Smart RPA ecosystem

1. **Technology capability** — This capability will relate to the core technical functionalities of the RPA software employed
2. **Ecosystem of partners for collaborative technologies** — Access to an ecosystem of smart and collaborative technologies for seamless integration
3. **Ecosystem of services partners** — Access to service partners that can help enterprises in planning, implementing, and accelerating their Smart RPA journey
4. **Product training and support** — Access to robust and easily accessible product training to develop in-house skills/talent and for product support for smooth functioning
5. **Commercial models** — Option to choose from a range of commercial models to suit enterprises' requirements

While choosing among available RPA software options, enterprises need to consider four key dimensions related to the functionalities of these platforms

1



Combining the reliability and accuracy of robots with the robustness of the development and software maintenance features, this dimension captures development, bug fixing, version management, backward compatibility, and general maintenance aspects of the software and its upgrades

When processes are handed over to a robot, security concerns naturally arise, such as hacking and unauthorized access. This dimension covers features that make the automation solution more secure

This dimension encompasses some of the biggest challenges organizations face when implementing and scaling process automation. It addresses robot management features, deployment in attended and unattended modes, and the ease of scalability in dynamic settings – for example, according to process load and demand fluctuations

As it is clear through various enterprise RPA deployments, a key enabling factor for success could be business' ownership of the RPA project. Under this context, this dimension describes how easy it is for the business team to learn about the software and create the robots

Dimension 1: Software quality and robot maintenance

1

Technology capabilities			
Dimension	**Sub capabilities**	**Brief on the sub capability**	**Important considerations**
Software quality & robot maintenance	Bug-free with seamlessly integrated components	As the technology evolves, RPA tools often have functionalities/components that do not communicate each other, such as not being able to edit the decision logic for a robot created using a recording facility	• RPA technology is continually evolving; organizations should take a more forward-looking approach to tool selection • RPA deployments will have unavoidable setbacks, and the tool should enable enterprises to continually evolve their deployments • Monitoring, administering, and controlling the robots are crucial aspects, and the software should support these processes • Robot maintenance should not cost enterprises more than the savings and efficiency improvements they actually generate
	Accurate identification of objects from the user interface	As RPA works on the user interface, this feature becomes a basic necessity and enterprises should not face problems when underlying screen resolution or related factors change	
	Error log generation for debugging	In order to make it easier for the enterprise to determine related reasons for a transaction failure, it is imperative that error logs are generated by the platform	
	Web-based interface to control and monitor robots	This feature enables enterprises to remotely monitor, manage, and control robots as and when required. This becomes even more important with large-scale robot deployments	
	Software designed using object-oriented principles	As enterprises further re-envision and modify their underlying processes and workflows with automation leverage, object-oriented RPA software makes it easier to incorporate such modifications in the robot code	

Dimension 2: Security and risk management

1

Technology capabilities			
Dimension	**Sub capabilities**	**Brief on the sub capability**	**Important considerations**
Security and risk management	Robust logging of robot activity or audit trails	For security and regulatory compliance, enterprises must maintain an audit trail of changes made to the robot and who made those changes; doing so will also help in subverting a fraud attempt	• How automation impacts or enhances enterprises' current security measures is an often overlooked, yet crucial, aspect • This issue is even more important for industries such as BFSI that deal with sensitive customer information; incidentally, this is the industry in which the potential of Smart RPA is quite significant • Given the intense regulatory activity around establishing a robust security infrastructure, this dimension should not be missed when considering automation deployments
	Adherence to security standards	Due to cybersecurity threats, a robust cybersecurity infrastructure is a necessity for both enterprises and regulators. The RPA tool should supplement these necessities by adherence to security standards	
	Credentials vault	In enterprises, access to passwords is usually restricted, creating a compliance issue with RPA. A robust credentials vault helps in convincing security teams to share access with robots	
	Role-based access controls supporting multiple roles	Role-based controls allow clear demarcation of the type of access to robots' administrators/users/ designers. For example, who is allowed to configure/reconfigure the robots should be clearly defined	
	Capability to run robots behind locked screens	For compliance with enterprises' security policies, robots should be capable of ensuring data privacy and running automated processes behind locked screens so that the user does not get access to more information than is intended	

Dimension 3: Ease of deployment and scalability (page 1 of 2)

1

Technology capabilities			
Dimension	**Sub capabilities**	**Brief on the sub capability**	**Important considerations**
Ease of deployment and scalability	Scheduling, queuing, and other robot management features	The software should allow straightforward scheduling, queuing, and conditional execution of robots based on some pre-defined trigger events	• The ROI that an enterprise can achieve from its automation initiatives, depends to a large extent on the scale achieved. Spread-out pockets of small-scale automation would yield minimal benefits at best • Many enterprises have found themselves going back to the drawing board when the deployments are scaled up, as many new exceptions and administrative hassles crop up • In order to avoid such issues and ensure scalability with minimal additional cost, the RPA tool selected should provide the necessary scalability functionalities
	Caching of operational information for recovery	Ease of recovery is important for enterprises that are scaling up their deployments; its significance is evident from the multiplication of exceptions occurrence once the robots are scaled up	
	A central application server that can run unattended	Achieving scalability is less challenging with the provision of a central server that can handle robot execution and recovery; if it is unattended, no additional people costs will have to be borne	
	Role-based access controls supporting multiple roles	Many functionalities could be considered such as a duplicable centralized server, reusability of robot parts, autonomous execution, and process orchestration	
	Option to run on a virtual machine or cloud	This option would allow enterprises to make the most of their infrastructure while also optimizing speed of automation and robot performance	

Dimension 3: Ease of deployment and scalability (page 2 of 2)

1

Technology capabilities			
Dimension	**Sub capabilities**	**Brief on the sub capability**	**Important considerations**
Ease of deployment and scalability	Ability to be deployed in both attended and unattended modes	Automating certain processes might require the user's input before the robot is invoked for the automated action, while others might run on a virtualized desktop without any user interaction	• Ease of deployment depends on the variety of functionalities available with the RPA platform that allows enterprises to customize the deployment to their operational requirements • These functionalities could translate into options to run attended/unattended robots or to deploy on virtual machines / centralized servers / desktops • Scaling up the deployments should not proportionately increase resource requirements or the realizable ROI would be negatively impacted. RPA software that allows for the most efficient resource usage should be considered
	Ability to auto-scale depending on process load	How fluctuations in transactions volume for an enterprise affect robot activity depends on the robotic platform's capability to dynamically adjust robotic resource usage	
	Ability to execute multiple operations in parallel	A parallel execution of automated process' multiple instances or multiple robot runtimes will increase processing speeds and also optimize resource leverage	
	Support for REST or SOAP web services and support for integration	In addition to support for REST or SOAP web services, the RPA solution should be capable of both inbound and outbound integration with these web services	
	Open architecture of the platform	Open architecture allows easy customizations for communication among robots and legacy systems and integrations such as with AI technologies for a more holistic end-to-end coverage of processes for automation	

Dimension 4: Ease of coding and robot development

1

Technology capabilities			
Dimension	**Sub capabilities**	**Brief on the sub capability**	**Important considerations**
Ease of coding and robot development	Non-invasiveness	The RPA solution should be able to seamlessly integrate with the UI layer of the computer-centric business process; this is more important for enterprises with system integration problems	• A large part of the value of an RPA software lies in the ease with which the robots could be coded and modified by not only technical manpower but business users as well • While Smart RPA increases the potential for automating more complex and judgment-intensive business processes, this all could render futile if the code creation is itself complicated • Not all the features under this dimension would demand exclusive attention of enterprises as some of these have started to find their way in almost all the major RPA vendors' offerings. Enterprises should rather look at the differentiating aspects and justify usability in their businesses
	Availability of pre-built integrations with leading software applications	Automating most of the front and back-office business processes would require the RPA layer to push and pull data to and from the various enterprise applications where pre-built integrations could come in handy	
	Ability to create manual steps with robot tasks	Almost all processes require robots to work with human touchpoints in the workflow. A robotic platform that enables developers to chart out human and robot workflow is crucial	
	Extensive libraries of reusable automation components	Access to or the ability to create libraries of re-usable workflows, methods, or components would help speed automation across different processes	
	Version control and management	By making it easy for users and developers to update and manage versions of robot code and track what changes have been made, unnecessary impediments to robot development and maintenance could be avoided	

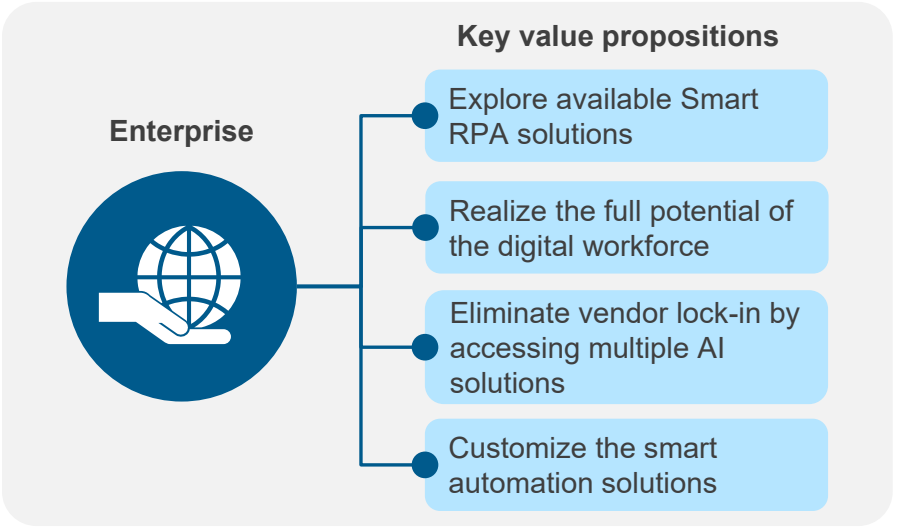
Ecosystem of partners for access to collaborative technologies

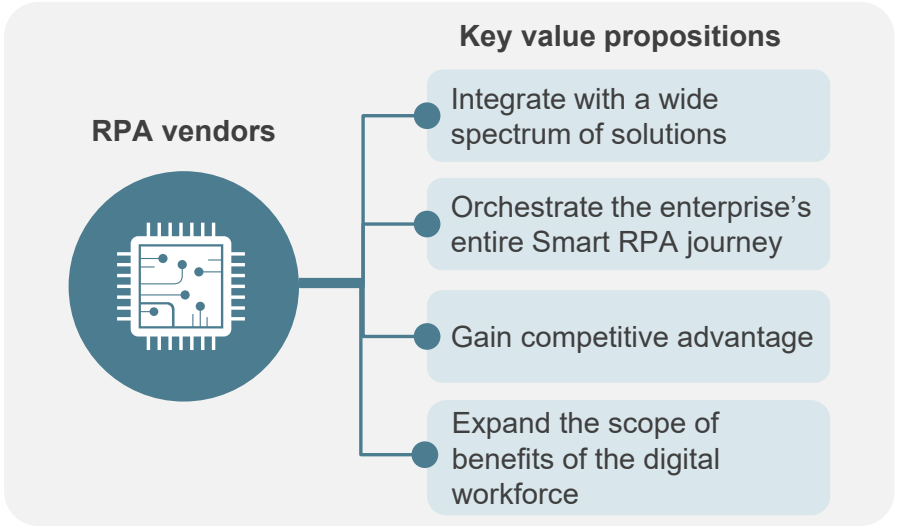
2

Why access to customizable RPA solutions is crucial for enterprises

- RPA by itself does not impart the full benefits of automation and can only handle mostly transactional activities. In order to realize the maximum potential from automation, integrating the RPA platform with AI and other collaborative solutions is imperative
- Integration with AI also increases the STP rates that the enterprises can achieve in their automated processes. This integration not only generates operational efficiencies but could also be a vital source of competitive advantage and attracting new customers
- If an enterprise's chosen RPA vendor is able to provide access to a broad partner ecosystem for collaborative technologies, in the future the enterprise would not have to reconfigure its RPA deployments or face hassles in integrating collaborative technologies with its current RPA platform

What a robust partner ecosystem of collaborative technologies means for enterprises and RPA vendors





Ecosystem of implementation partners

3

- These companies offer business and process expertise and are primarily used at the time of identification of use-cases for automation
- They provide: process reengineering, optimizing, and standardizing support; managing integrated human and robotic workflows; change management; and orchestrating the automation deployments at any time in the enterprise's digital journey

- Training partners are required for their implementation and consulting expertise to help enterprises build, configure, and deploy their Smart RPA projects
- In order for enterprises to achieve global scale of deployments, training should be available in a variety of languages

- Specialist implementation partners cover deeper aspects of Smart RPA implementations and the platform leveraged, such as platform architecture, CoE set up, governance, business case realization, and scaling up deployments

Product training and support

4

Three main tenets of product training and support

Good product support and maintenance services

- Product support and maintenance are very important for a smooth journey experience and hence, enterprises should look for Smart RPA vendor(s) that offer proper and continuous product and maintenance support
- Enterprises should be able to meet their required service levels with Smart RPA, and the vendor should be capable of providing support to do so
- Uniform product update/release cycle and maintenance services helps enterprises avoid/minimize challenges with their deployments, especially when they have scaled up their deployments. An enterprise's IT and operations department should not be burdened with issues resulting from inadequate product support, but rather be assisted to ensure the most efficient use of limited resources

Easy access to robust product training

- Provision of a training platform with robust training documentation that can be downloaded and viewed offline, and self-paced online training courses and certifications should be an important consideration in Smart RPA vendor selection
- Structured training material enables an enterprise's developers and users of automation solutions to accelerate their learning curve, deployment, and usage

Open source product training courses and materials

- Open source product training materials ensure continuous updating of information as developments occur
- An online community platform where users/contributors can answer a query or disseminate information is often very helpful to enterprises in their automation journey. These platforms enable them to learn best practices from relatable initiatives, while keeping them abreast of recent developments and technology upgrades

Commercial models

Enterprises should evaluate available pricing options to select a model that best aligns with their requirements and planned roadmap

5

Commercial models available in the market and the definitions entailed vary widely from vendor to vendor. Enterprises should be thoroughly conversant with the available options and evaluate them according to their requirements and roadmap for automation

Perpetual licensing	The enterprise pays an upfront fee for technology and software licenses for a long term plus an Annual Maintenance Charge (AMC); low recurring costs
Subscription-based	
Fixed capacity	The enterprise pays a fixed fee for the term (generally annually) for each robot, inclusive of maintenance costs
Transactional- / per process-based	Pricing is directly and linearly linked to discrete units of outputs delivered by the Smart RPA technology to the enterprise; the price is based on discrete unit of output
Usage-based	The enterprise pays for robot usage; best for buyers whose requirement and workload volumes vary significantly
Outcome-based	Pricing linked to outcomes; i.e., measurable cost or revenue impact delivered to the buyer; price based on gainsharing model

Key factors affecting the suitability of commercial models

- Scale of deployments planned
- Frequency of processes to be automated
- Predictability of transactional volumes
- Scope of engagement with the vendor
- Roadmap and timelines to scale up deployments

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
  - Identifying and prioritizing processes for Smart RPA adoption
  - Optimizing processes before automating
  - Selecting enterprise-grade Smart RPA tools
  - **Establishing and executing a Smart RPA CoE**
  - Identifying and sourcing Smart RPA skills
  - Developing an effective change management program
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

The why and wherefore of setting up a CoE (page 1 of 2)

Why is it needed?

- A CoE provides a strong centralized structure and governance for a variety of aspects of automation including sharing skills, resources, assets, coding and security standards, and best practices
- It encourages reuse of robot assets and code
- It enables consolidation and optimization of automation solutions, vendors, and licenses
- It can ensure full utilization of robot assets and licenses across the enterprise
- These factors, which help to address specific business or operational needs, all contribute to the business case for the scaling up as well as other drivers

How does a CoE operate?

- A CoE can operate in different ways; operations may vary according to the enterprise's culture and business requirements
- It is a central shared service that helps multiple parts of the organization automate their processes
- It can be funded and governed either at the corporate level or by business units and their representatives

What services does a CoE offer?

- A CoE typically offers automation expertise combined with a good level of knowledge about the organization's business processes
- It is common for a CoE to work with business units to design and develop their robots and test and maintain them
- It can also offer deployment, application management, and a control tower. However, a balance is needed; too many responsibilities too soon could break the CoE initiative or turn it into a bottleneck

The why and wherefore of setting up a CoE (page 2 of 2)

When is a CoE set up?

- The best time to start setting up a CoE is at the start of the organization's automation journey. This timing will ensure that the organization learns once and shares its knowledge and skills many times
- The CoE can start as simply as capturing automation project documents and best practices and grow its skills, scope, and responsibilities over time
- Another approach is to set up a CoE once the initial proofs of concept have been completed, and the project files, skills, assets, and lessons learned can be transferred to it for reuse and sharing
- The business case can influence when a CoE is started. The drivers determine when the CoE starts and if a particular requirement should be dealt with before others. A fast set up for a specific requirement can run parallel with other scaling up deployment activities, such as cataloging existing automation software

Where should a CoE be located?

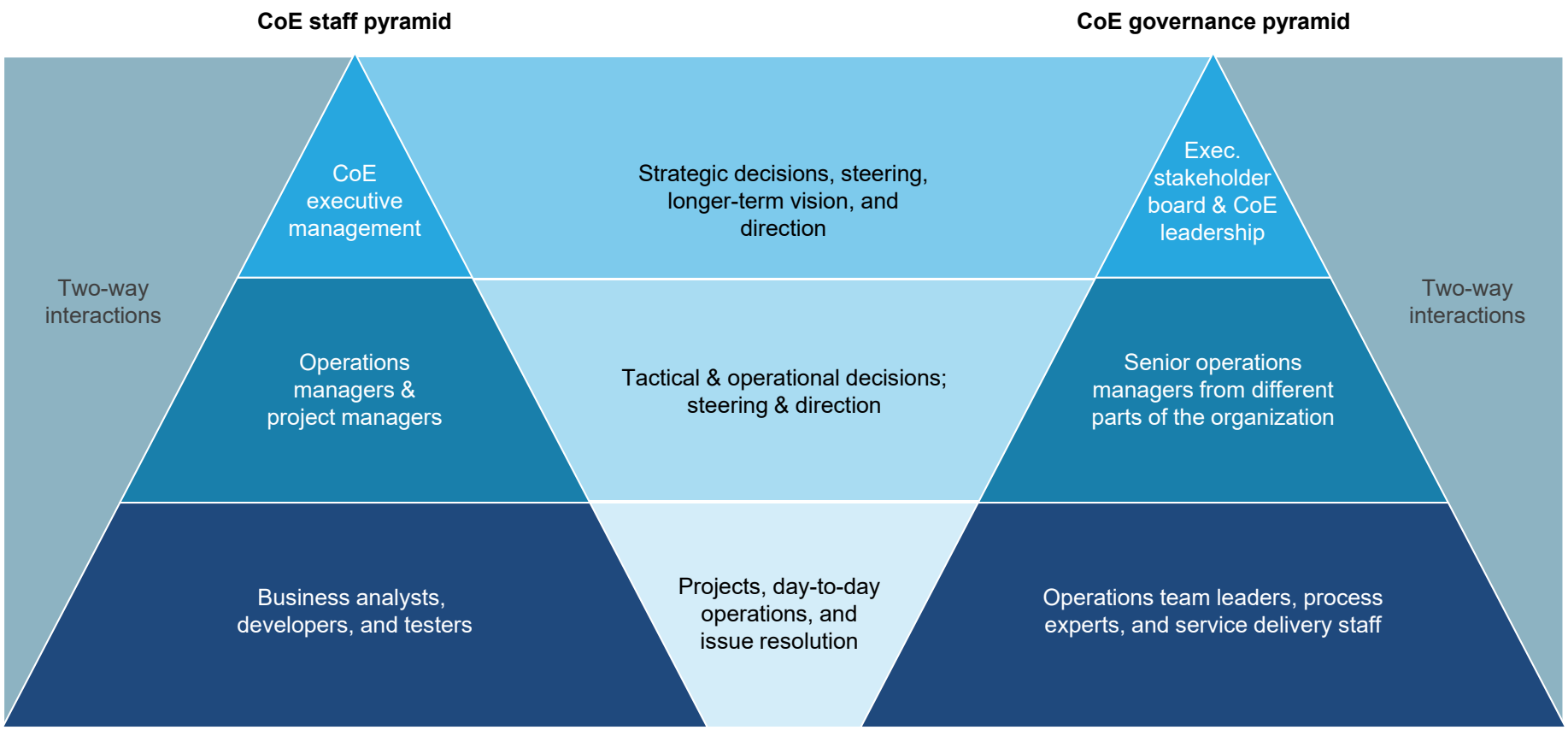
- There are various models for CoEs including a centralized delivery location, much like a shared services center enabled by virtual and multiple customer interaction channels. This is the best suited to Smart RPA because of the need for deep collaboration with IT and other supporting functions to build capabilities for AI
- There is also the distributed hub and spoke mode, which gives the CoE a physical presence to serve customers in different geographies

Who owns the CoE?

- CoEs are typically owned and managed by the corporate operations optimization function
- Organizations will also have to decide who owns and is responsible for software licenses, automation source codes, methodologies, and other IP – the CoE, the corporation, or the business units

The CoE pyramid has three distinct layers that define its governance structure

CoE governance model



Each layer within the CoE pyramid has a unique set of responsibilities

Strategic decisions, steering, and direction

The CoE and the executive stakeholder board decide the long-term strategy for the CoE, including decisions such as:

- Funding and governance models including criteria for prioritizing automation requirements
- Performance reviews
- Expansion
- If the CoE needs to expand in size for current operations
- If the CoE needs to expand to offer more services or to offer services to new groups and in new geographies
- Supplier or service provider executive relationships, partnership, or procurement strategies

Tactical & operational decisions; steering and direction

Senior operations managers, line of operations managers, and program/project managers are responsible for mid-term planning:

- They address requirements such as infrastructure and capacity planning, risk and compliance policies, resourcing, and aligning of CoE work with operational priorities
- The steering group tracks CoE performance at a detailed operational level. It collects information from operational teams, addresses issues, and reports to the executive stakeholder board
- Within the CoE, mid-level managers are responsible for technical skills development. They arrange trials of new technologies and manage the relationship with suppliers and service providers' mid-level managers

Projects, day-to-day operations, and issue resolution

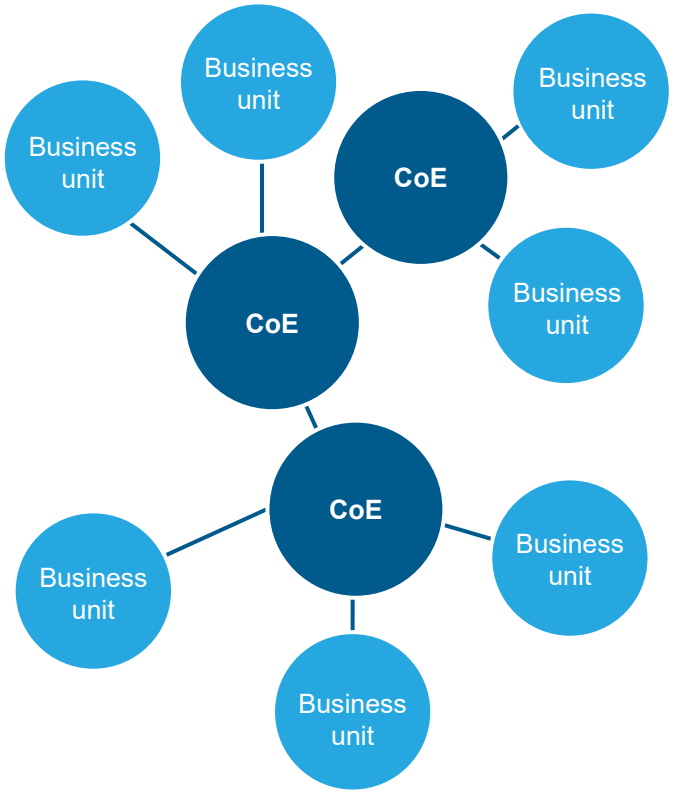
This is the group that uses the automation software and robots and ensures smooth daily operations:

- Within the CoE, business analysts, developers, and testers are engaged in the design, development, and day-to-day running of automation efforts, typically supported by the central IT group (for infrastructure support)
- They work closely with their operations clients and process experts to ensure consistency in design; they also test for accuracy and adherence to client specifications
- They collect daily operations information and report internally and to senior management
- Process experts and operational staff have to make sure that processes are run according to schedules and priorities. They check the outputs of the automated processes and report quality issues to the CoE staff
- They ensure that CoE personnel are made aware of changes to process requirements

There are different CoE models, the most common of which are centralized and hub & spoke

The centralized CoE model

The hub & spoke CoE model



The centralized CoE offers the strongest structure for Smart RPA and maximizes standardization, but limits geographic presence and local knowledge

Advantages of a centralized CoE include

- A centralized CoE is the most suitable for Smart RPA because it can liaise with corporate functions such as IT and data management to create the organization's AI capabilities
- A centralized CoE can maximize adherence to corporate automation policies, governance, and management reporting by having all staff under one roof and following the required procedures
- It can also maximize standardization of software tools and, with that, increase the depth of expertise in the tools
- It can make the most of existing automation assets through re-use and re-deployment to other business functions
- The centralized CoE can offer a physical presence to local business units and interact with others remotely and virtually
- A centralized CoE results in cost efficiency with only one center to run and manage

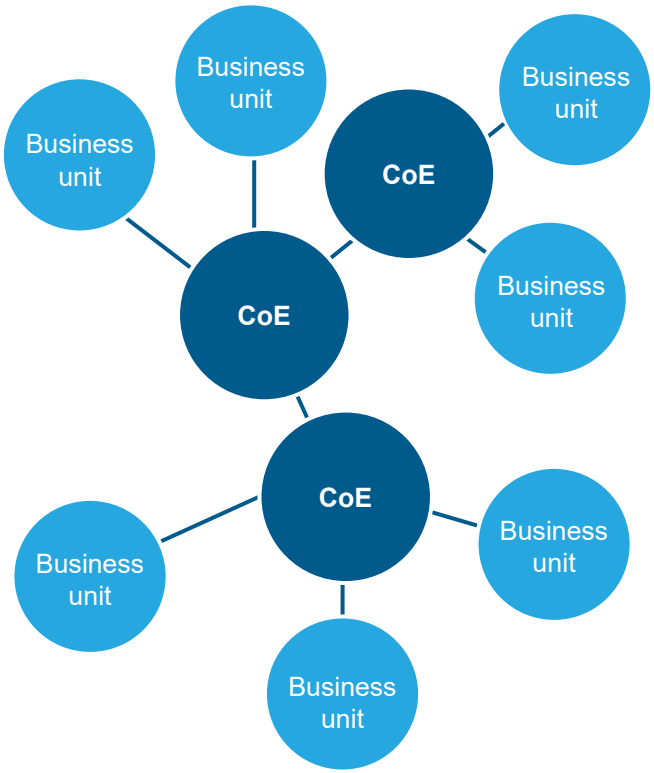
Disadvantages of a centralized CoE include

- A centralized CoE can become too rigid in its pursuit of adherence to policies and procedures
- It can be too remote from BUs in different geographies to fully understand their needs and cultural differences
- It can become too inward-looking and miss out on new automation opportunities or business innovation

While a centralized CoE offers the strongest structure for Smart RPA and maximizes standardization, it limits geographic presence and local knowledge

Advantages of a hub and spoke CoE include

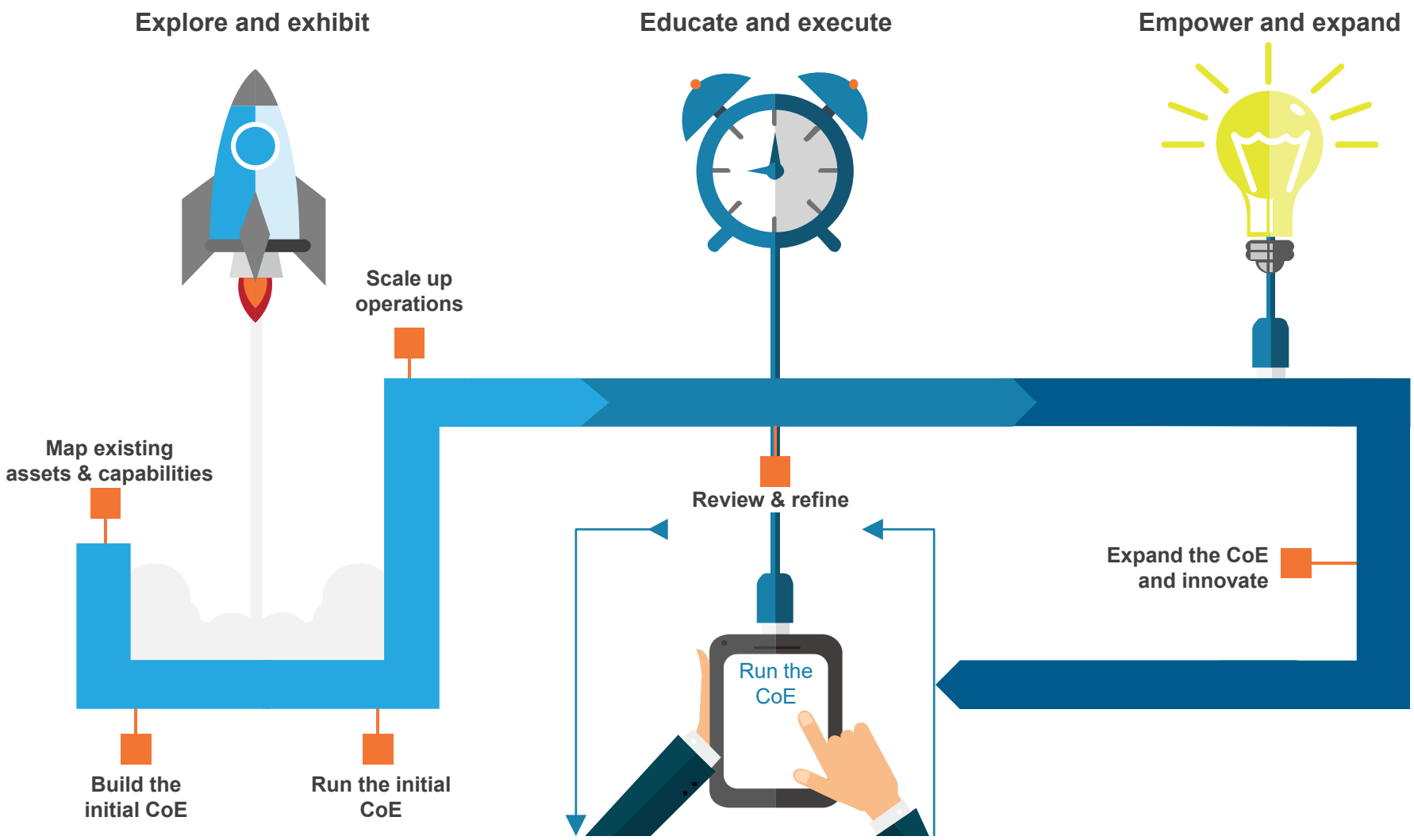
- In terms of Smart RPA, the central hub of this model plays a vital role in coordinating IT, risk, and data management requirements at a corporate level, thus creating the core capabilities that the spokes need to automate processes in a distributed competency model
- The spokes can develop Smart RPA, complemented with local or functional knowledge
- The spokes can develop automations based on expertise in local policies and procedures
- The spokes can specialize in processes that are run in one location and not in others
- Non-specialized process automation services can be pooled and run from the central hub



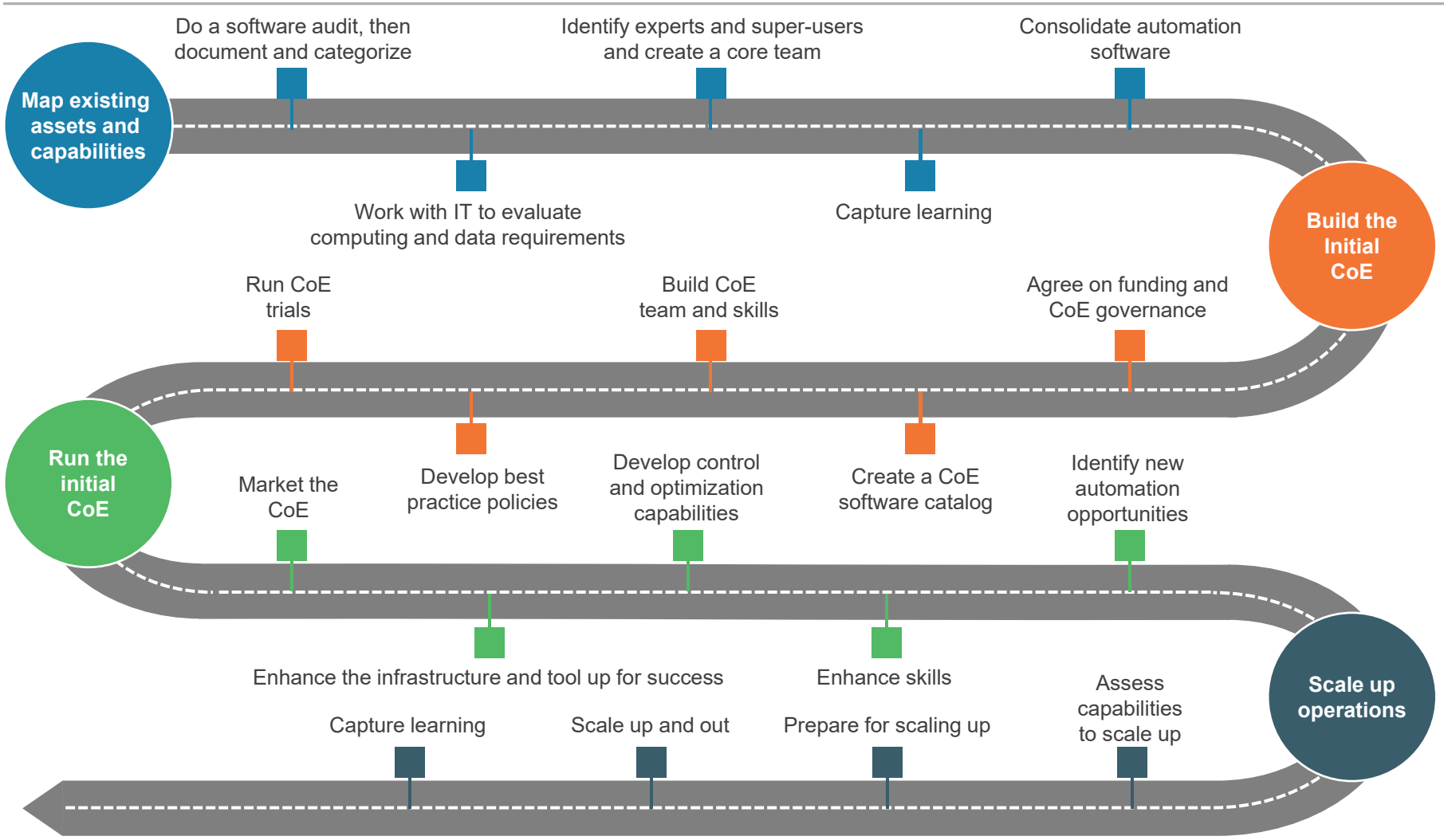
Disadvantages of a hub and spoke CoE include

- The spokes can implement Smart RPA only if the central hub has created capabilities for AI in collaboration with IT and other supporting functions
- Availability of Smart RPA skills can be limited in some geographies
- It may be more challenging to standardize tools and procedures
- Duplication of knowledge and skills in hub and spokes can minimize benefits of the shared model
- More effort is required to manage ongoing communications, training, and policy updates

Building and expanding an automation CoE is a closed loop process

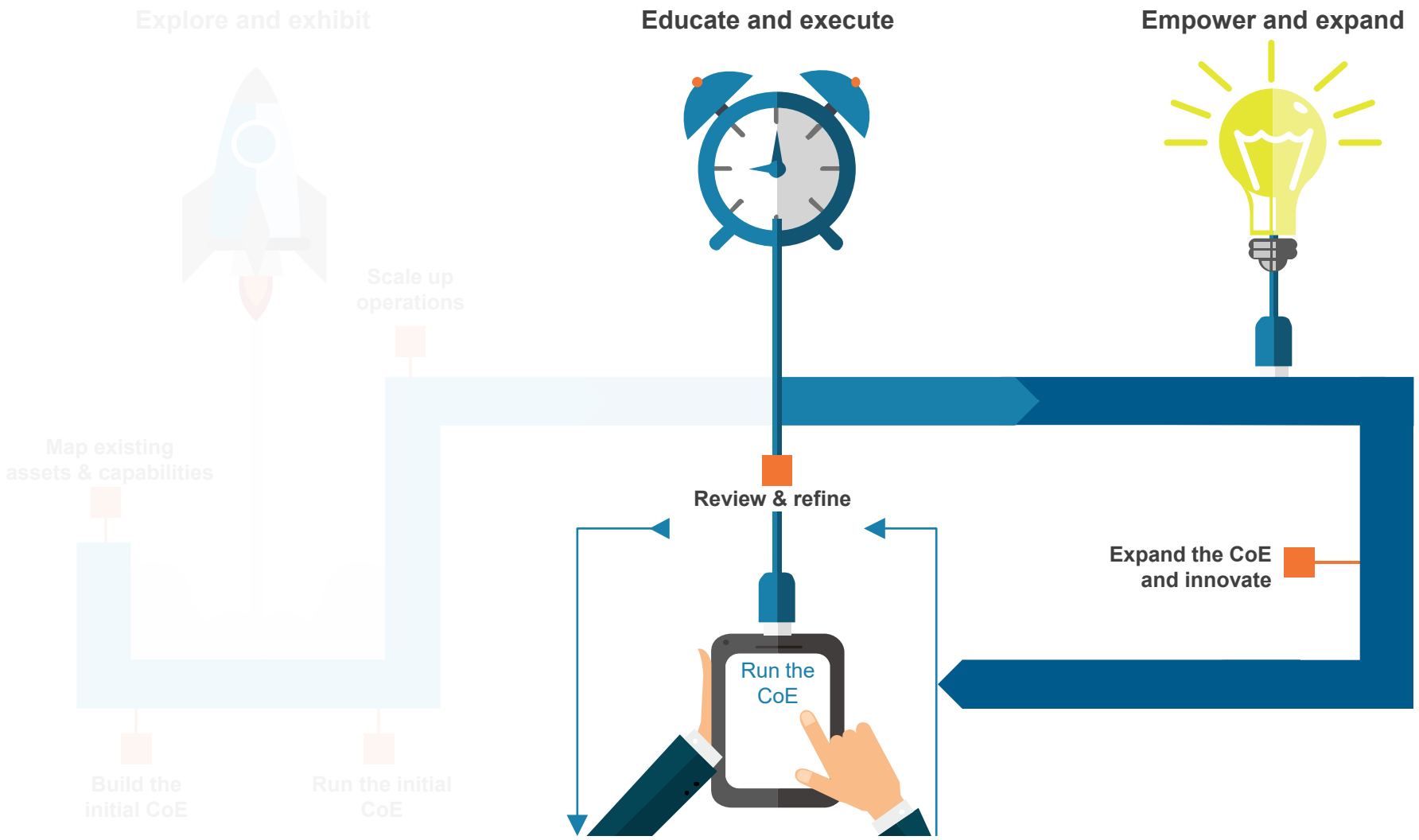


Starting up an automation CoE: A roadmap

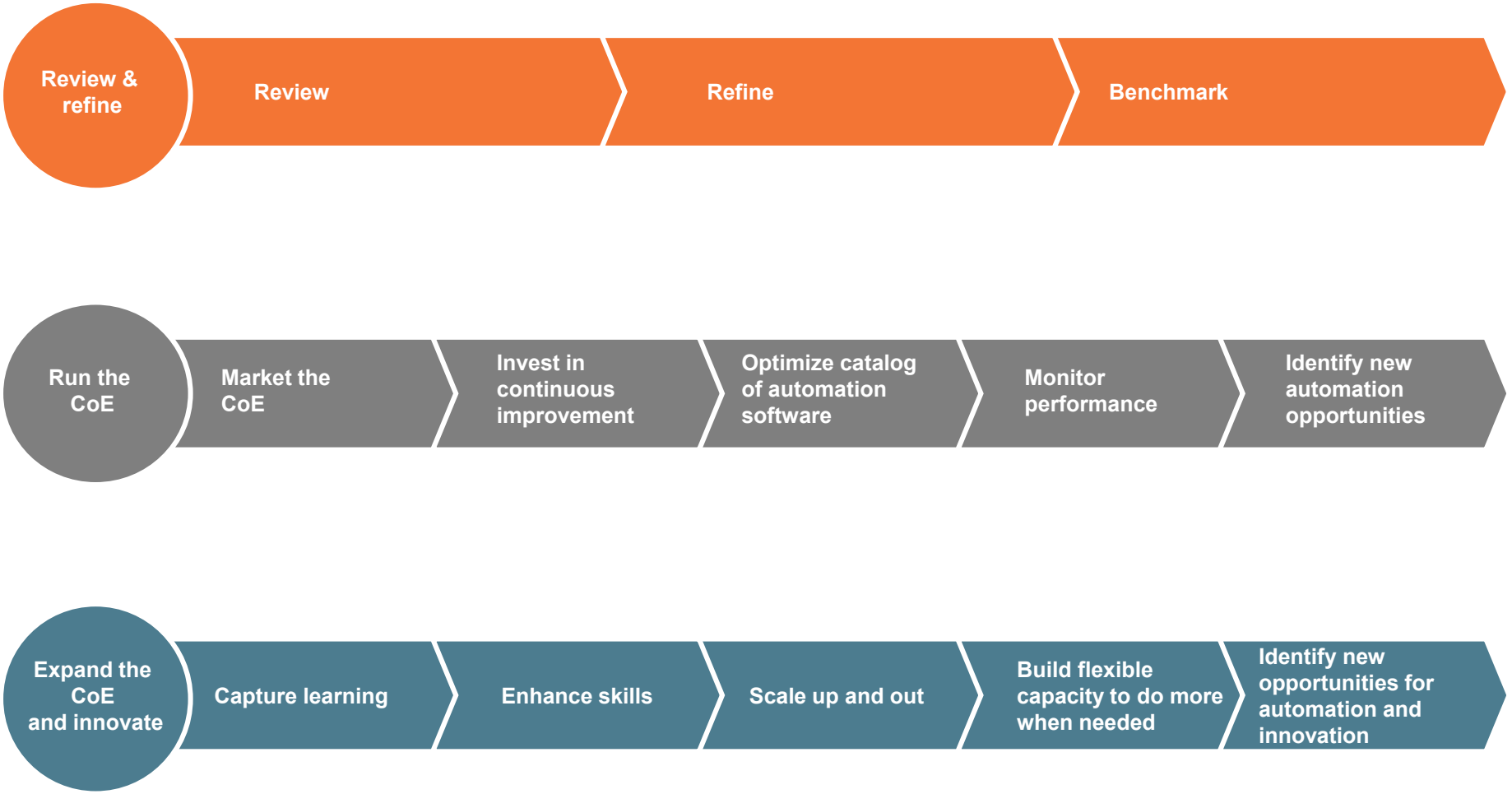


1 Refer to pages 179-196 in the Appendix for more details

Running and expanding an automation CoE is a closed loop process



Key steps in running and expanding an automation CoE

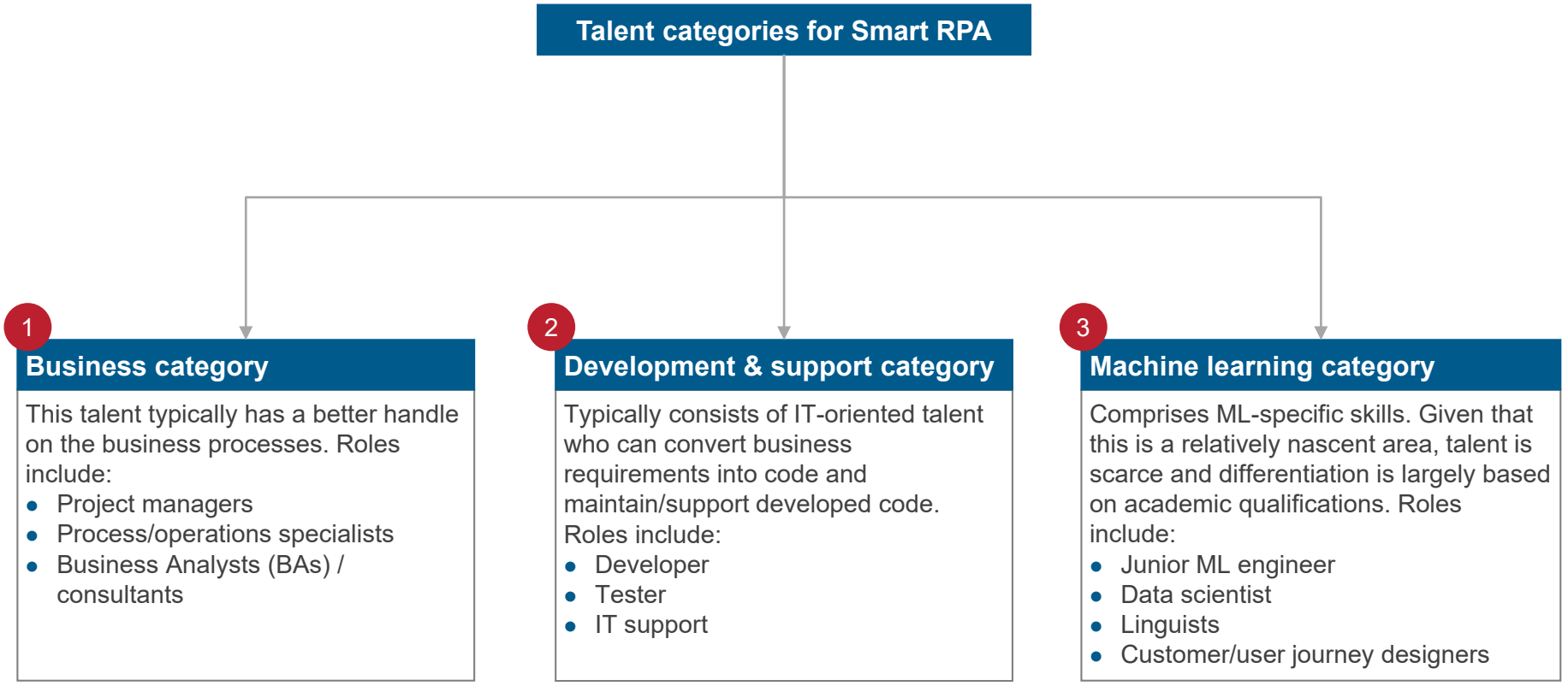


1 Refer to pages 179-196 in the Appendix for more details

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
  - Identifying and prioritizing processes for Smart RPA adoption
  - Optimizing processes before automating
  - Selecting enterprise-grade Smart RPA tools
  - Establishing and executing a Smart RPA CoE
  - **Identifying and sourcing Smart RPA skills**
  - Developing an effective change management program
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

Multiple talent categories are required to effectively support a Smart RPA initiative



Typical talent build-up progression as organizations scale and mature their automation initiatives

Roles, responsibilities, and skills required for Smart RPA (page 1 of 3)

1

Role	Key responsibilities	Skill sets required
Project managers	• Project managers lead Smart RPA projects and ensure timely delivery • They act as internal evangelists for Smart RPA and are responsible for getting stakeholder buy-in for the initiative, requirement specification, technology selection, risk assessments, and business adoption • They liaise with the IT team and data science teams and are the single point of contact for projects	• Project delivery credentials • Change management experience • Experience in supervising teams, monitoring, reporting, and auditing • Understanding of the business processes and automation software • Lean Six Sigma training and previous experience on continuous improvement
Process/operations specialists	• These specialists may or may not be part of the primary Smart RPA team (they can remain in operations teams) • Working with BAs and consultants, they describe processes, specify outcomes to be delivered, and manage process versions • They give input to testing scripts, help gain access to annotated data, and do user testing	• Subject matter expertise in the business operational processes • Basic understanding of Smart RPA software functionality • Strong understanding of monitoring and auditing performance of the Smart RPA software used
Business Analysts (BA) / consultants	• BAs and consultants understand both business processes and automation technologies • They take the requirements and specify how they can be automated • They are in charge of creating the process definitions and process maps used for automation • For lower complexity, platform-based ML solutions, BAs can be responsible for continued training and maintenance of models • They also spot other opportunities for further automation and innovation	• Business process reengineering skills • Understanding of automation software and ML algorithm capabilities, limits, and constraints • Strong analytical mind • Strong process mapping background • Lean Six Sigma training and previous experience on continuous improvement

Source: Everest Group (2018); inputs from market participants (such as buyers, technology vendors, service providers, and system integrators)

Roles, responsibilities, and skills required for Smart RPA (page 2 of 3)

2

Role	Key responsibilities	Skill sets required
Developers	• They are automation technology specialists • They work closely with BAs and consultants to translate the automation specification into code • Enable integrations with other systems in AI deployments • They are responsible for the design, development, and release of automation applications and their enhancements	• Subject matter expertise in the usage and functionality of the automation software • Scripting or programming experience • Problem solving and analytical skills • Basic understanding of the business process to be automated can increase efficiency
Testers	• They undertake the testing of automations at different stages of the development cycle • They write testing scripts in collaboration with operations staff and produce testing reports • They report bugs and issues and undertake retesting of bug fixes	• Knowledge of automation software used • Knowledge and experience of software testing tools (such as test management and defect-tracking tools) • Scripting or programming experience • Problem solving and analytical skills • Basic understanding of the business process to be automated
Support teams	• They are the first point of contact for the operations team and are responsible for handling any incidents, errors, and queries related to the deployed automation tool • They perform routine checking of the control tower, automation logs, and identify any potential problems to ensure smooth running of the tools	• Basic knowledge of the automation software used • Experience monitoring and auditing the performance of the automation software used • Basic understanding of the business process to be automated

Source: Everest Group (2018); inputs from market participants (such as buyers, technology vendors, service providers, and system integrators)

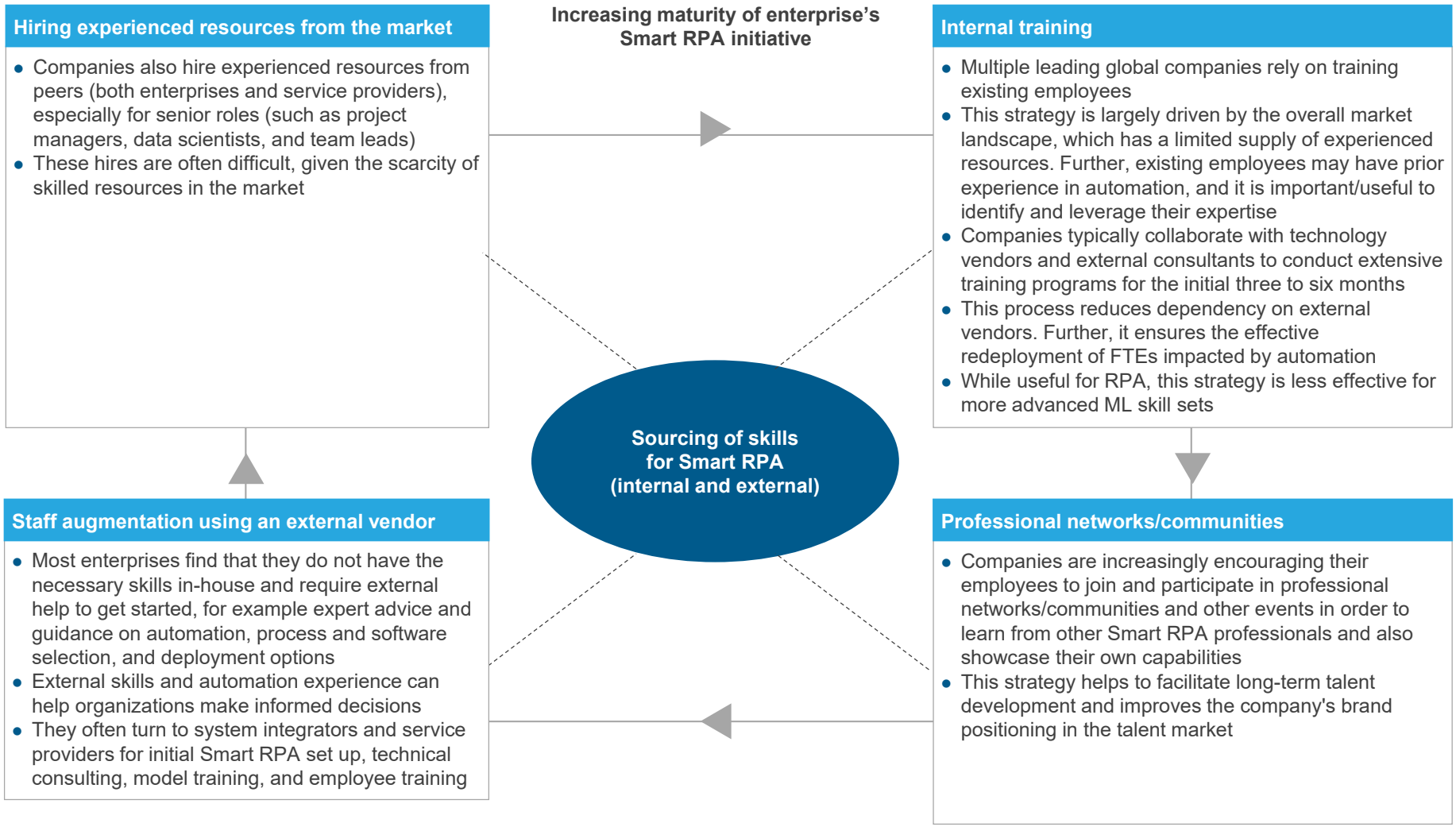
Roles, responsibilities, and skills required for Smart RPA (page 3 of 3)

3

Role	Key responsibilities	Skill sets required
Junior ML engineers / analysts	• Typically work on identifying solutions on limited areas within an ML-based problem, for example computer vision-based image recognition for an insurance use case • Work on specific types of use cases / problems / data sets, optimizing algorithms and/or neural networks to improve efficiency effectiveness	• Basic machine learning skills in limited areas or types of problems • Typically experienced undergraduates or Masters degree holders with a background in data science and/or computer science • Programming ability in one or more languages such as Python, R, and Java
Senior ML engineer / data scientist	• Typically work on ML-based problems end-to-end • Have the ability to apply statistical theory to choose/engineer/optimize approaches (and corresponding algorithms) across multiple use cases and data sets	• Advanced machine learning skills spanning multiple areas • Typically PhDs in statistics, computer science, or related fields with a good grasp of the mathematical components of ML • Programming ability in one or more languages such as Python, R, and Java
Linguists	• Typically work on language-based problems, collaborating with ML engineers and data scientists • Works on codifying intent and entity processing and other NLP-related tasks	• Typically Bachelors, Masters, or PhD degree in linguistics • Basic exposure to NLP, data structures, and technology, while not necessary, is sought
Customer/user journey designers	• Typically work on interactions between the customer or the user with AI • Develops concepts and prototypes • Collaborates with business analysts, linguists, ML engineers, and data scientists	• Typically a degree in graphic design with the ability to understand business context and related concepts with human-centered design capabilities

Source: Everest Group (2018); inputs from market participants (such as buyers, technology vendors, service providers, and system integrators)

Companies have used and can use diverse talent acquisition models to source talent for the Smart RPA journey

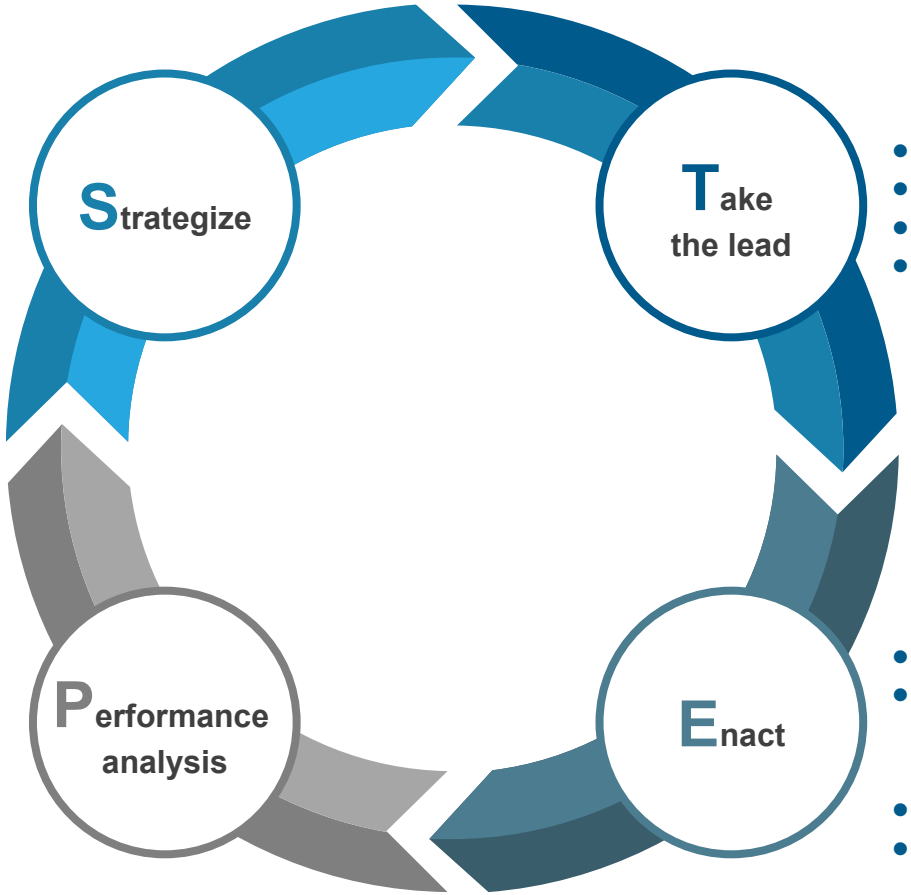


Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
  - Identifying and prioritizing processes for Smart RPA adoption
  - Optimizing processes before automating
  - Selecting enterprise-grade Smart RPA tools
  - Establishing and executing a Smart RPA CoE
  - Identifying and sourcing Smart RPA skills
  - **Developing an effective change management program**
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

Developing a change management program – follow the STEP approach to ensure smooth transition

- Create vision
- Ignite the movement
- Identify value through metrics
- Define the roadmap



- Establish governance
- Mobilize change teams
- Inspire people
- Align the change culture

- Define metrics and measure performance
- Bank financial results
- Monitor performance
- Communicate outcomes
- Raise the bar

- Drive Smart RPA initiatives
- Assign process ownership and hold people accountable
- Make tough decisions
- Celebrate small wins and successes

Overcoming resistance and motivating change

Reasons for individual resistance	Reasons for organizational resistance
• Habit of manual ways • Economic factors • Job security • Fear of the unknown • Selective information processing	• Threat to established power relationships • Threat to established resource allocation • Structural inertia • Limited focus of change • Group inertia

Motivating change

- Educate and involve employees
- Communicate and sensitize
- Negotiate and mediate
- Facilitate and support transition
- Employee co-option

Sensitize the teams on the need for change

Reveal the discrepancies between the current and desired states

Convey credible targets and realistic expectations of the change

Source: Everest Group (2018); Goldratt's Theory of Constraints

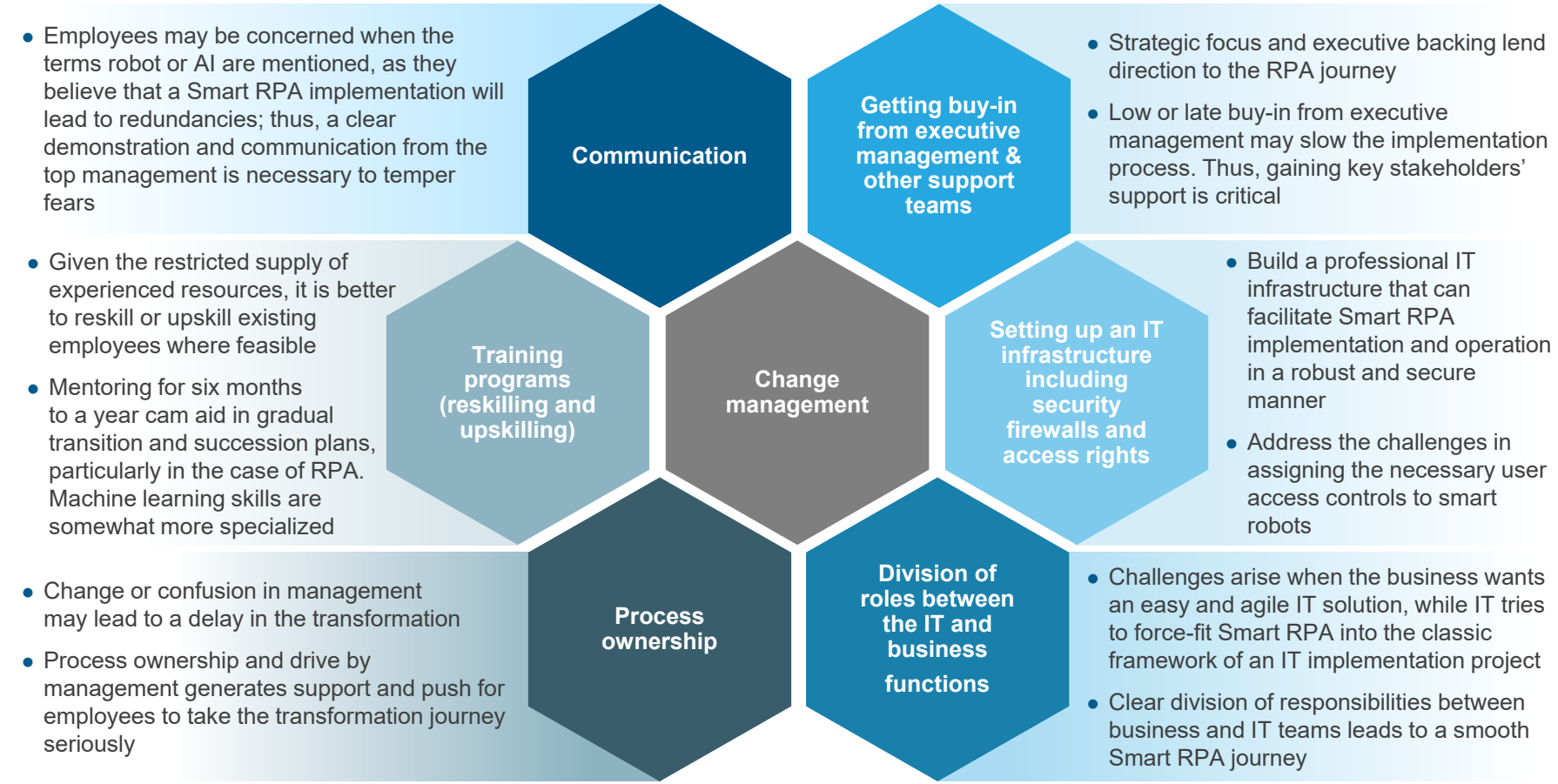
Change management team: Role examples for sustaining the Smart RPA journey (page 1 of 2)

	Illustrative titles	Responsibilities
Change management head (executive sponsor)	CEO / CDO / CTO	• Executive leadership • Key project accountability and process ownership • Report to Business Head / CEO on project outcomes
Head organization development (change leaders)	Business Line Head	• Develop clear strategies for the Smart RPA journey • Coordinate the overall change program • Develop individuals and teams for Smart RPA
Communication role (change agents)	Public Relations Head / Chief Communications Officer / VP-HR	• Provide clear communication to all key stakeholders on issues related to Smart RPA transition • Develop two-way a communication channel to foster ongoing Smart RPA change across the four phases from POC to production
Human resources role (change agents)	HR Manager	• Provide HR support on individual issues – reskilling/upskilling • Provide a change office and HR infrastructure to support employees in the Smart RPA transition journey

Change management team: Role examples for sustaining the Smart RPA journey (page 2 of 2)

	Illustrative titles	Responsibilities
Project leaders (implementors)	Business Line Manager (mid-level)	• Engage workforce for the a targeted project in Smart RPA • Take responsibility for key initiatives for a specific project • Report to change management head and organizational development head on outcomes/progress
Leadership advisory role (change advisory)	VP-HR / CHRO / Business HR Head / Change Management Officer	• Develop leadership change management capability • Provide ongoing change advice to leaders
Process co-ordination role (implementors)	Project Manager / Business Line Manager / IT Partner	• Coordinate project infrastructure and integration • Prioritize and plan overall project timeframes
Performance management role (implementors)	Project Manager / Business Line Manager	• Establish clear, precise project performance measures and reporting systems • Manage ongoing project performance • Report to the executives on overall progress

Key factors in a change management program



Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- **Enterprise case studies**
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix

Enterprise journey 1 (page 1 of 2)

While the start of the RPA journey was laden with setbacks, learning and adapting quickly helped this enterprise to achieve stable and scalable RPA implementations

The initiation of the enterprise's RPA journey

The enterprise began its RPA journey in the finance function of a shared services center almost 18 moths ago, with a directive from the CFO. Even then, buy-in from the entire senior management proved difficult due to skepticism among stakeholders around risk, data security, and governance concerns with a third-party provider that had earlier proposed process automation. These dynamics changed when a new Vice President, brought in to head the shared services, was fairly optimistic about the potential of automation. The enterprise engaged a consulting partner in the initial phases of business case development, after which there was a gradual process of internal transition and capability development.

Objectives behind RPA adoption

- Cost savings was the primary driver for senior management
- Further into the implementation, the benefit metrics also included operational and business impact
- Ease of regulatory compliance is another added objective, as the enterprise is in a heavily regulated industry
- Headcount reduction or avoidance were never objectives, as the organization believes that organizational productivity is further improved when FTEs are deployed on more business value-additive tasks

Challenges

- Initial buy-in from senior management, who were sceptical about RPA adoption being more disruptive than productive
- Significantly non-standardized processes across regional markets. Standardization across the globe became a huge challenge. An initial lack of knowledge about process' fragmentations could exacerbate deployment later
- Finding experts / human resources competent and experienced in automation, particularly as the third-party consulting partner's RPA and business process expertise proved insufficient

Current status of the RPA program

About 18 months since the automation journey started

Started with **six pilot** processes

Currently **20** processes involving **12** robots in production each day

Machine learning leverage in future roadmap

Enterprise journey 1 (page 2 of 2)

There were notable implementation approaches employed, such as considerable focus on buy-in from multiple stakeholders, that led to the achievement of desired business objectives

Strategy and approach	Key business outcomes achieved
• While the project initially was started as a small RPA initiative, the enterprise has built adequate understanding of and capabilities for automation implementation and expected setbacks • In the initial six months, the organization undertook proper process documentation to identify robot control points and human and bot interactive workflow in the automated processes • Multiple stakeholders came together to contribute to governance establishment. Financial control, external audits, information control, internal IT, and the RPA team collaborated to decide how to manage robot user IDs, control access, and deal with security breaches and credential information leakage	• Reduction in direct external spend on outsourcing by bringing processes back in-house and automating them • Reduced cost of new hires • Between those two outcomes, the organization anticipates a potential savings of US$6 million in the future, depending on the extent of achievement of automation objectives • The enterprise has already recovered its investments in RPA

Winning insights

- At the initial stages, project leads ensured buy-in from senior management, which could prove to be significantly enabling for RPA adoption in the later stages
- The organization viewed RPA adoption as an enterprise-level objective rather than a siloed initiative among multiple business units across regional markets
- The organization implemented a hub and spoke governance model shared among the IT and business teams. A centralized engineering team worked on technology design
- The company was able to drive incremental business value, as employees were further trained on more business value-add items

Enterprise journey 2 (page 1 of 2)

Enabling themselves digitally and competing aggressively in the market were the key drivers behind this enterprise's RPA adoption journey

The initiation of the enterprise's RPA journey

As a part of its digital strategy, RPA captured the attention of the enterprise's operational executives. RPA was specially noteworthy because the enterprise's back-end was being run on legacy systems, and RPA could promise the additional of digital to the legacy systems. The executives undertook research and conducted a competitive assessment of third-party automation vendors; they zeroed in on one vendor because of its AI capabilities and enterprise-wide licensing. The team strategized automation deployment around customer experience. A POC conducted with an automation vendor turned out to be promising in terms of returns and efficiency. RPA was viewed as an enterprise-level strategy rather than automation of siloed business units and processes.

Objectives behind RPA adoption

- Positioning the enterprise as a digitally-enabled firm that offers a best-in-class customer experience
- While cost reduction was a known benefit, it was never the driving objective behind RPA adoption
- Creating more insights around customer experience, for which chatbots and machine learning were chosen
- Reducing turnaround times more than the industry leader to gain significant competitive advantage

Challenges

- Self-installation of robots without the support of a third-party vendor proved challenging. Ultimately, the vendor was called in to provide support, which helped the enterprise resolve issues
- Access authorization and security issues arose when the process was automated. Security vaults were needed to mitigate this concern
- Cultural issues surfaced when a team from different stakeholder representatives was formed

Current status of the RPA program

24-30 months since the automation journey was deployed

More than **2,000,000 transactions** automated to date

Achieved **60-70% accuracy** with chatbot operations

Less than 80% STP achieved in the automated process

Enterprise journey 2 (page 2 of 2)

The cognizance of and investment in AI technologies, combined with RPA as an enterprise-level strategy, increased the enterprise's realized benefits from automation adoption

Strategy and approach	Key business outcomes achieved
• A successful POC with a third-party automation vendor helped drive the belief that RPA was the right investment. The organization undertook a detailed vendor assessment exercise to find and select a vendor with AI capabilities that was the right fit • At the onset, automation was an enterprise-wide initiative, and thus enterprise-grade RPA tools were selected • Machine leaning was the next step and chatbots were deployed to gain deeper insights around customer experience	• The organization has achieved Straight Through Processing (STP) rates of 60-70% with automation and chatbots; this figure could increase to 80% if robots are optimized • In one automated process, the number of people handling exceptions decreased from nine to one • The time required for customer credentials verification for Vehicle and Asset Finance (VAF) reduced to less than 10 minutes • The automation enabled the enterprise to increase its market share in a highly competitive environment

Winning insights

- In order to achieve the full potential of automation, include leverage of AI in the planning stages, as it might impact automation vendor selection
- Benefits from RPA are significant only when automation is industrialized in the enterprise. Automating small processes, with lower volume of transactions, does not lead to full benefit realization. Enterprises should thus determine the feasibility of scalability before process/vendor/product selection
- A CoE pays off when scalability is required. While different business units might opt for different CoEs, they should have an integrated forum where they can share best practices with each other
- RPA should be owned by the business unit and supported by various other teams such as IT, risk and compliance, regulatory, and security. All the teams should be on the same page about governance
- Automation implementation should be based on agility, as faster response times are required when robots fail, otherwise customer experience delivery is negatively impacted

Enterprise journey 3 (page 1 of 2)

A strong commitment to empowering employees to own automation from planning to production has accelerated this enterprise's RPA journey

The initiation of the enterprise's RPA journey

This financial services enterprise launched its journey into RPA because it was regularly bogged down by the high variability and low predictability of volumes in their processes, which also led to increased hiring costs to manage seasonal peaks. From the onset, the enterprise built an RPA development and implementation knowledge base in-house and only leveraged a third-party RPA vendor for its robotics platform. The main vendor selection criterion was ease of use of the platform so that operations people could be trained easily on the technology and could lead the effort. The RPA vendor also was engaged to provide onsite consulting support to accelerate the enterprise's RPA learning.

Objectives behind RPA adoption

- Manage hiring costs and senior management's planning overload for processes with highly variable and unpredictable volumes
- Reduction in human errors as a financial services enterprises are very sensitive to these mistakes
- Improving employee skill sets as employees would be focusing more on judgment-intensive tasks following automation
- Manage cost and complexity with technology and also attract and retain technology-oriented customers

Challenges

- Delaying the adoption of AI until after RPA reached maturity was later realized to be a mistake
- Choosing a complex process as the initial one to automate delayed production as it took eight months to automate the selected process
- Security concerns arose when access to robots needed to be granted, especially because the enterprise is in the financial services space. All the robots are thus assisted at all times

Current status of the RPA program

Over 4 years since the automation journey was initiated

Machine learning deployed last year; first process in production

Approximately **3,000 software robots** deployed across multiple centers

15-20% productivity increase with AI

Everest Group® RESEARCH

Enterprise journey 3 (page 2 of 2)

An objective-driven approach to planning for automation has worked well for this enterprise, which applied a phased approach to process automation to quickly realize cost objectives

Strategy and approach	Key business outcomes achieved
• The enterprise decided to become self-sufficient in terms of RPA knowledge at the beginning of its journey and trained its own employees on RPA development and implementation • While program governance is centralized, operations and deployments are now decentralized as there is variation across centers • The enterprise has designed a standardized framework for computing process/use-case feasibility • To accelerate benefits, the enterprise selectively applied automation to simpler processes quickly and then fixing broken processes before automating • The organization used a dedicated team for RPA development and maintenance	• Manageability of volume fluctuations increased • Employee productivity improved and employees ability to add value increased • Cost-savings of approximately 40% for simpler processes • Reduction in delivery time for the end-customer

Winning insights

- Enterprises should be clear on the outcomes they want to achieve with RPA and AI deployments, as their planning is heavily dependent on the outcomes desired
- As enterprises transfer more planning, implementation, and deployment into the hands of employees, RPA rapidly pervades the organization. People are excited about RPA when they are involved first-hand
- Always have a target process picture before trying to automate. Automating processes in their current state could create significant challenges when enterprises are trying to scale up. Also, processes could be automated in phases – automating the standard parts first and then moving on to complex pieces
- Involving people in the entire RPA journey significantly diminishes the change management effort required
- Enterprises generally have a significant amount of reusable code; this code should be easily accessible to help spread RPA to other business units with minimal additional effort

Enterprise journey 4 (page 1 of 2)

The enterprise embarked on a Smart RPA journey to achieve benefits today and in future

The initiation of the enterprise's RPA journey

This UK-based motor insurance company initially used only one robot. The CEO believed that investment in RPA could yield increased cost-savings and enhanced efficiency. The company built a simple flow within the first two weeks, taking into consideration the initial resources available. This project's goal was to help people realize what RPA could do and create excitement. The enterprise decided to use a POC, which provided a guideline for the IT infrastructure needed. Eventually, the necessary infrastructure was set up by getting a buy-in from various teamsby creating a dedicated automation team, comprising smart business people with the right aptitude and inclination toward technology with appropriate training to build robots. The automation team provides shared services and forms part of a centralized CoE.

Objectives behind RPA adoption

- Exploring all that software robots could do
- Making departments more efficient and, thus, save cost
- Reducing transactional work for employees and replace them with more strategic and value-added tasks
- Adding value to the business, which should yield output today and, to a greater extent, in the future

Challenges

- There were some apprehensions regarding robot output at the start of the project
- Getting the much needed infrastructure for implementation
- The rate of transformation was quite fast, and other teams/businesses were dependent too, which created additional pressure at times of failure
- Debugging the causes of robot failures was sometimes difficult and frustrating for the IT department

Current status of the RPA program

Over 2 years since the automation journey was initiated

60 RPA licenses in production

Leveraging **Intelligent OCR / IDP** and RPA for higher automation rates

75% robot licenses being utilized on a daily basis

Exploring **process mining** technologies to find the gap in processes and speed deployments

Enterprise journey 4 (page 2 of 2)

A careful selection of processes for automation, stakeholder alignment, and in-house automation team led to substantial cost savings and quick payback

Strategy and approach	Key business outcomes achieved
• All the relevant stakeholders were brought onto the RPA initiative and the resistance pertaining to the robots' output was overcome, leading to a sustainable RPA implementation journey • Setting up the necessary IT infrastructure for the implementation was a key factor that influenced the process in multiple ways • The automation team was developed in-house, primarily by identifying relevant people from within the organization and training them • The governance system, and the development and maintenance of robots, are centralized through a CoE	• Considerable functional cost savings through the robots being put in use • Saved 20,000 FTE hours per month using RPA • Achieved a payback of its initial investment within seven to eight months of the start • Employee engagement improved as their work transitioned from repetitive transactional tasks to focus more on judgment-intensive skills development • About 50% higher automation rates achieved in content-centric processes by leveraging IDP along with RPA

Winning insights

- The POC should not be a starting point; rather the focus should be on mapping all the infrastructure and IT facilities needed. It is incorrect to presume that it would take time for processing and implementation, because the pace increases with time and the impact is huge
- Maintain a close contact with all the stakeholders and, most importantly, explain the key benefits of the new technology and its usage to prevent negative perceptions from setting in
- Construct and implement a framework to look at every process before sending it for production; do not automate a bad process. Processes should be revisited or if necessary, redesigned entirely, before automating
- Process mining technologies can help analyse process gaps and optimize them before going into production
- Change the name of the CoE from robotics to automation to proactively avoid any negative connotation
- The team should comprise smart people who have the necessary aptitude and inclination toward technology

Enterprise journey 5 (page 1 of 2)

With its eyes set on transforming operations for the future, this enterprise developed robust governance and project management mechanisms to build RPA

The initiation of the enterprise's RPA journey

For this technology products-focused company, RPA was born within the finance department. Budgetary constraints around finance operations led to the enterprise contemplating RPA and establishing a finance innovation practice to transform the enterprise's finance operations into finance of the future. Early on, the enterprise decided not to leverage System Integrators (SIs) for implementation and created a robust governance structure in-house, operating from feasibility judgment to production and ongoing robot maintenance. The first selected process for automation was more about testing the RPA waters, which gave the enterprise the confidence to target potential scalable use cases.

Objectives behind RPA adoption

- Getting business insights from the substantial amount of data going unleveraged in the organization
- Increasing process efficiency and transforming operations to be future-ready
- Inculcating new skills in employees, thus elevating their career trajectories and engagement

Challenges

- Getting all stakeholders on board and aligned
- Selecting and prioritizing projects
- Striking the right balance between automating as-is versus optimizing and redesigning processes before automating

Current status of the RPA program

Around 2 years since the automation journey was initiated

CoE with global presence and <100 people

OCR, blockchain, and machine learning are the next targeted set of technologies

Enterprise journey 5 (page 2 of 2)

The enterprise derived various tangible and intangible benefits from its RPA implementation and is now targeting end-to-end rather than point solutions by leveraging AI

Strategy and approach	Key business outcomes achieved
• Processes with high headcount and heavy transaction volume were identified as the best potential targets for automation • Partnership with IT was decided up front. The IT team was a part of implementation at various points such as vendor review and selection. The role of IT was clearly defined. While the operations team led the RPA initiative, IT played a supporting role • For identification of attractive targets, the operations team and quality resources were involved as they have deeper knowledge of the process • After attaining a specified level of maturity in RPA in the finance department, the business unit moved to integrate RPA with more cognitive capabilities and analytics to capture business intelligence	• Tangible benefits include direct cost savings through headcount reduction and hiring avoidance • Many intangible benefits such as better compliance and risk management, greater employee engagement, and more valuable employee skillsets • High conversion rates of ~80% for identified processes into automation implementations

Winning insights

- Complete centralization of RPA implementations would not be feasible for various enterprises. Such organizations should thus decide the distribution of implementation activities
- Governance structure is a key decision that the enterprise should tackle early on in their journey. A steering committee that would prioritize and drive the projects should be set up. Business units consisting of various sub departments should have SPOCs to bring attractive projects to the table
- All projects should be funneled through a standard prioritization framework because budgetary constraints mean that all identified target projects will not ultimately be automated
- AI starts playing a significant role when enterprises move toward end-to-end process automation versus point solutions with basic RPA
- Initial planning should definitely take into consideration the future scalability required

Enterprise journey 6 (page 1 of 2)

The CEO of this enterprise started its Smart RPA journey due to his confidence in the RPA potential and wanted the best people to work on it

The initiation of the enterprise's RPA journey

This Life and Pensions (L&P) insurer's CEO first believed that RPA could be a high-potential investment that would introduce cost savings and efficiency. Every department was given a cost savings target, and they were free to choose the methodology they found more suitable. Many were inclined toward RPA, and that is how RPA entered into this organization. However, the enterprise believed that RPA development with businesspeople and without IT would be messy and inefficient. They thus have dedicated RPA developers from the IT department. The role of the IT department also expands to the business side where IT, along with business, does requirement planning according to the processes to be automated.

Objectives behind RPA adoption

- Making the departments more efficient and thus save costs
- Transferring mundane transactional work from employees and transitioning them to more business value-add tasks
- Getting operational analytical insights from automation logs. RPA vendor logs are not suitable for this purpose as they are complex and can only be used for debugging by IT people

Challenges

- Debugging the causes of robot failures was sometimes very difficult for the IT department. The robots usually work on third-party tools, and they can fail if any tools are updated or fail. Sometimes the updates to the UI were so negligible that it was hard to distinguish the cause of robot failure
- When robot failures happened, the developer had to put in extra effort to get them running

Current status of the RPA program

Around 2.5 years since the automation journey was initiated

53 unique processes automated and over

1.5 million items completed using robots

7 robot licenses in production

40 FTEs worth of mundane work being saved using robots

Enterprise journey 6 (page 2 of 2)

Ensuring extensive usage of robotic resources and the enterprise's IT and security infrastructure greatly increased this enterprise's realized RPA benefits

Strategy and approach	Key business outcomes achieved
• Stakeholders had to be brought onboard the RPA initiative, and the first stakeholders to be onboarded were those who hold the budget and would ultimately decide to spend on RPA. After that, IT was onboarded which was crucial, as IT was to lead the robotic development • Reusing the underlying security infrastructure and treating the robots only as virtual FTEs with the same security restrictions made it easier to engage the security team • The robot code was reused to ensure that the amount of automated processes configured is the minimized while robotic work is maximized, leading to lower robot maintenance requirements • Development and maintenance of robots is centralized	• Cost savings achieved through headcount reduction was more than initially targeted by the business units • Employee engagement improved as they were moved away from repetitive transactional tasks to focus more on judgment-intensive skills development • Analytical insights for senior leadership are derived from the robotic data, helping management fuel their strategic initiatives while extracting best practices from other well-performing departments

Winning insights

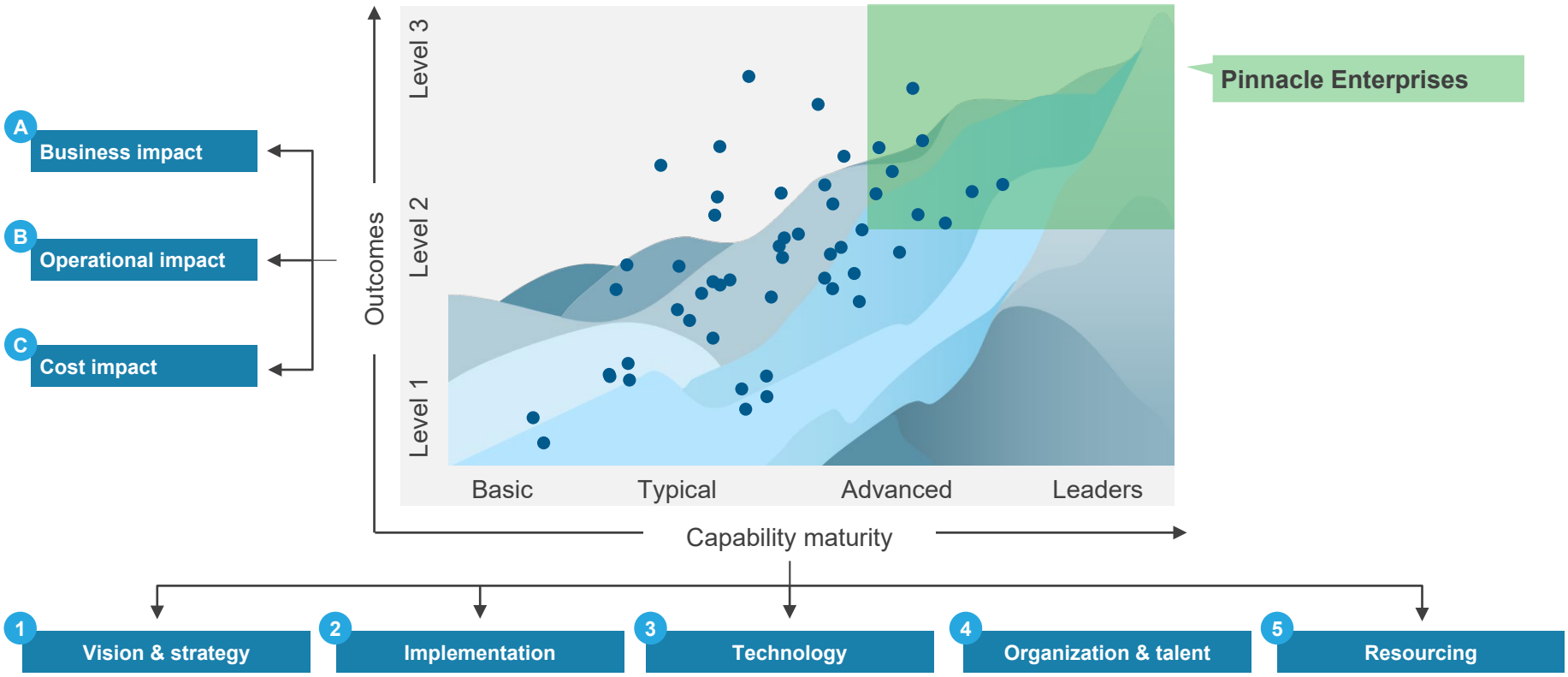
- Robotic development and the underlying coding should be as dynamic and agile as possible. As standards change, standards should be developed in an agile manner. Also, static verification of robot code should be undertaken to filter out any fixed parameters in the code that may reduce a robot's accuracy during the production
- Robot testing should be as robust as possible because, when a robot goes into production and then fails, it is difficult for developers to debug and correct
- Avoid over-engineering. For some enterprises, it might be helpful to quickly launch themselves into robot production and then learn from their mistakes, retroactively correcting them, and then keep scaling them up
- Complete reliance on the business team for robot development should be avoided as business people might not be well-suited to understand the deeper technical aspects, such as when robots fail
- Optimize license usage as much as possible by reusing similar robots across different departments. Also, try to reuse the already available IT and security infrastructure to minimize additional investments

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- **Pinnacle Enterprises™ Smart RPA maturity model**
- Developing the business case for Smart RPA
- Appendix

The Pinnacle Enterprises™ Smart RPA maturity model provides a framework to help enterprises measure current and target states of their Smart RPA journeys, both in terms of outcomes and capabilities

Everest Group Pinnacle Model™ Analysis 2018 for mapping an enterprise journey to become a Pinnacle Enterprise™



Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- **Pinnacle Enterprises™ Smart RPA maturity model**
  - **Assessment of Smart RPA capability maturity**
  - Assessment of Smart RPA outcomes
- Developing the business case for Smart RPA
- Appendix

Everest Group organizes capabilities according to five key components of enterprises' Smart RPA journey

Journey components	Key focus areas
 Vision & strategy	• To understand the vision of the organization for Smart RPA and the drivers behind its adoption • To assess the organization's readiness for Smart RPA adoption from a process, risk, and security perspective
 Implementation	• To assess the scale and scope of Smart RPA adoption along with the pace at which Smart RPA has been adopted – in terms of software robots deployed and time taken to scale up from pilots
 Organization & talent	• To assess the governance model for Smart RPA and extent of collaboration between the implementing groups • To analyze the talent management strategy for the organizational change as a result of Smart RPA adoption
 Technology	• To assess the extent to which various different components of Smart RPA technologies, such as process mining, computer vision, and chatbots, are being developed • To assess the level of sophistication of various Smart RPA technologies deployed
 Resourcing	• To assess the sourcing strategy, training, and education programs for various Smart RPA skills

Enterprise Smart RPA capability is assessed across over 30 capability elements (page 1 of 2)

Journey components	Capability elements
A. Vision & strategy (10 capabilities) 	A1. Primary drivers of Smart RPA adoption A2. Funding/sponsorship A3. Project initiation A4. IT alignment A5a. Security & risk preparedness for Smart RPA A5b. Security & risk preparedness for Smart RPA (factors considered) A6. Factors considered for security & risk preparedness for Smart RPA A7. Metrics and KPIs for measuring benefits/impact of Smart RPA A8. Metrics and KPIs for measuring effectiveness of Smart RPA initiatives A9. Targeted process types for Smart RPA adoption A10. Changes to business processes for Smart RPA adoption
B. Organization & talent (12 capabilities) 	B1. Smart RPA team structure B2. Type of Smart RPA CoE B3. Scope of the Smart RPA CoE B4. Sharing/pooling of Smart RPA skills B5. Roles and responsibilities of CoE B6. Reusability of automations B7. Primary use of process data from automations B8. Focus on tracking/optimizing the effectiveness of the program B9. Focus on tracking/optimizing the benefits achieved B10. Level of employee engagement B11. Availability of training/learning and awareness programs B12. Nature of impact on employees

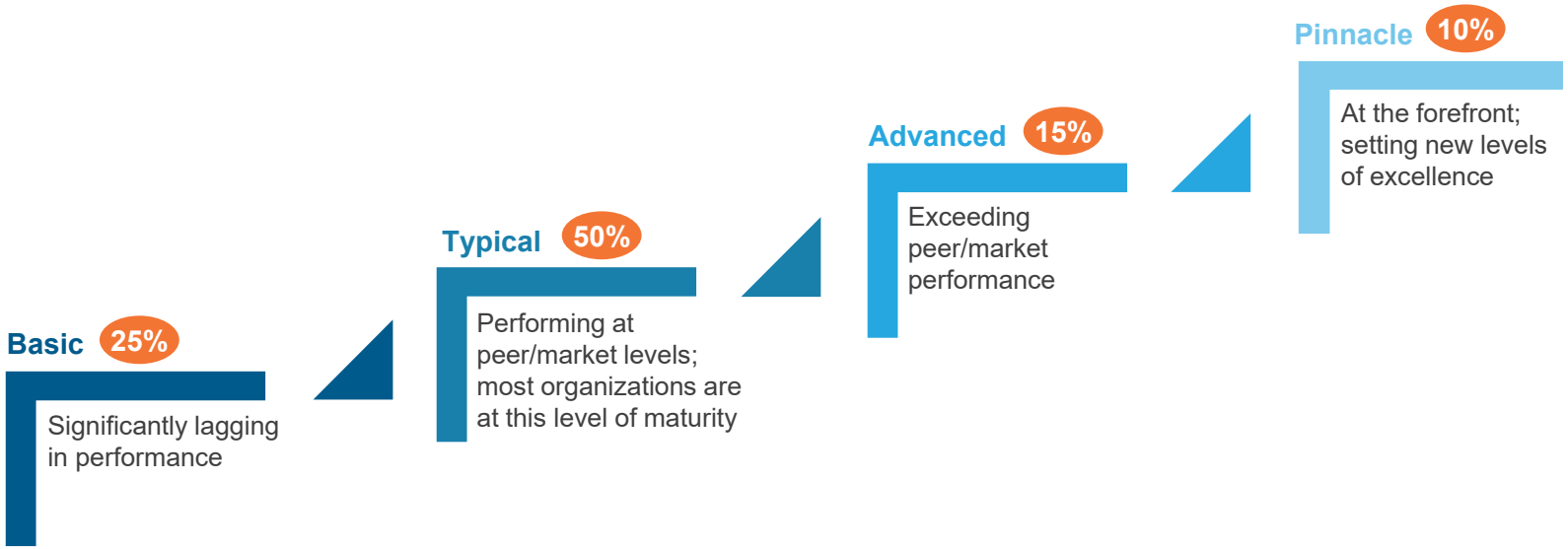
Enterprise Smart RPA capability is assessed across over 30 capability elements (page 2 of 2)

Journey components	Capability elements
C. Technology (8 capabilities) 	C1. RPA C2. Pre-built, reusable templates, and automations from vendors or marketplaces C3. OCR/computer vision C4. Analytics C5. Chatbots C6. Orchestrator/BPM C7. Hosting type C8. Process mining
D. Resourcing (2 capabilities) 	D1. Sourcing of Smart RPA talent/skills D2. Smart RPA training and education
E. Implementation – scale, scope, and speed (4 capabilities) 	E1. Distribution of Smart RPA projects by stage E2. Scale of Smart RPA adoption E3. Scope of Smart RPA deployments across functions E4. Speed of Smart RPA adoption

Enterprise Smart RPA capability is assessed across four maturity levels

The four capability maturity levels

Approximate share of enterprises at each maturity level XX%



	Basic	Typical	Advanced	Pinnacle
Description	• Lagging behind peers in capability performance • Poorly controlled and reactive • Adopted in an ad hoc manner based on opportunities that emerge • No major investment in terms of time and effort to improve the capability • Primarily delivers some cost impact	• Capability performance at current peer/market levels • Time and effort are put forth for some basic management and controls • Some necessary disciplines are in place • Delivers cost impact and some business outcomes	• Capabilities exceed typical performance levels • Significant time and effort are put forth to develop advanced capabilities • Delivers significant business outcomes	• Differentiated and best-in-class capabilities • Exemplifies the way to success • Well-planned and organized, thus setting the stage for innovation • Delivers best-in-class outcomes and strategic advantage

Source: Everest Group (2018)

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Primary drivers of Smart RPA adoption	Business case focused on generating quick cost savings	Business case focused on increasing productivity, efficiency, and quality, or address specific tactical requirements (such as backlog of cases to process) along with generating cost savings	Business case is focused on improving regulatory compliance, employee experience, and customer experience along with increasing productivity, efficiency, and quality as well as generating cost savings	Business case is focused on disrupting the market, innovating the business model, and growing revenue in addition to improving regulatory compliance and customer experience and increasing productivity, efficiency, and quality along with generating cost savings
	Funding/ sponsorship	Primarily sponsored/funded by local/regional business unit budget	Primarily sponsored/ funded by the global shared services budget	Primarily sponsored/ funded by global business function's budget	Primarily funded by the central enterprise budget; sponsorship from CXO

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Project initiation	Siloed approach with no CoE support	Projects are initiated by global shared services OR local/regional business units with limited CoE support	Projects are initiated by global business functions OR global shared services OR local/regional business units; multi-pronged approach with substantial CoE support	Projects are initiated by corporate OR global business functions OR global shared services OR local/regional business units; multi-pronged approach with robust CoE support
	IT alignment	Led by operations/ business team with very limited support from IT	Led by operations/ business teams and supported by local IT teams	Enterprise IT is brought on board to set standards and support security, infrastructure, and business continuity requirements; revising standards and practices to reflect the fact that users are now going to include non-humans or virtual agents (such as two factor authentication)	Enterprise IT is an end-to-end partner for all Smart RPA initiatives for setting standards and supporting security, infrastructure, and business continuity; enhancing and revising standards and practices to reflect the fact that users are now going to include non-humans or virtual agents (such as two factor authentication)

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Security and risk preparedness for Smart RPA	No major changes made to security and risk policies and worked around existing ones to accommodate changes required for Smart RPA projects	Some changes to security and risk policies were made to accommodate Smart RPA environments and scenarios	Proactively evaluated and planned for mitigation of security and compliance risks associated with Smart RPA initiatives; set up unique risk management protocols and controls for RPA and/or AI deployments	Included security and risk leaders in Smart RPA evaluation and Smart RPA projects to prepare, manage, and mitigate associated security, risk, and compliance requirements unique and essential for RPA and AI deployments; redefined security and risk policies and set up robust set of protocols, which are regularly monitored and optimized

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Security and risk preparedness for Smart RPA (factors considered)	Active directory integration, audit trail for RPA or AI, and infrastructure and system requirements	Roles-based user access, secure credential vault, active directory integration, audit trail for RPA or AI, data protection and privacy, infrastructure and system requirements, loading speed of applications, and compliance requirements	Ensuring solid governance of AI decision-making, full audit trail of robot actions, user access for robots, unique firewall, active directory integration, roles-based user access, integration with specialized secure credential vault, data protection and privacy, infrastructure and system requirements, loading speed of the applications, and strict compliance requirements	Assigning granular user access controls to robots, ensuring solid governance of AI decision-making, user access for robots, unique firewall, active directory integration, roles-based user access, integration with specialized secure credential vault, data protection and privacy, infrastructure and system requirements, loading speed of the applications, and strict compliance requirements

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Metrics and KPIs for measuring benefits/ impact of Smart RPA (such as cost savings, ROI, process quality and speed, productivity, customer experience, revenue growth, and time-to-market)	The organization currently does not use any well-defined metrics to measure returns from Smart RPA investments; metrics used are ad hoc, poorly controlled, and reactive/chaotic	Some basic cost and efficiency metrics / existing IT metrics, which are repeatable in projects, are used to measure returns from Smart RPA investments	The organization has defined a series of new metrics (customer experience, efficiency, cost, etc.), roles, and responsibilities that are standardized across the organization to track the returns on Smart RPA investments	The organization continuously optimizes the metrics (revenue growth, time-to-market, customer experience, efficiency, cost, etc.) and roles and responsibilities to measure and optimize impact of Smart RPA investments

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Metrics and KPIs for measuring the effectiveness of Smart RPA initiatives (such as efficiency of automation codes and algorithms, reusability of codes, infrastructure utilization, license utilization, speed of automation/ implementation, STP rate, number of robots, and number of transactions/tasks automated)	The organization currently does not use any well-defined metrics to measure effectiveness of Smart RPA initiatives; metrics used are ad hoc, poorly controlled, and reactive/chaotic	Some basic metrics / existing IT metrics, that are repeatable in projects, are used to measure the effectiveness of Smart RPA initiatives; metrics such as the number of robots and the number of transactions/tasks automated	The organization has defined a series of new metrics, roles, and responsibilities that are standardized across the organization to track and measure the effectiveness of Smart RPA initiatives as well as defined policies, procedures, and practices driven by flexibility to accommodate unique aspects of different business units; metrics such as infrastructure utilization, license utilization, speed of automation/ implementation, STP rate, number of robots, and number of transactions/tasks automated	The organization continuously optimizes the metrics, policies, procedures, practices, roles, and responsibilities to measure and optimize the effectiveness of Smart RPA initiatives; metrics such as efficiency of automation codes and algorithms, extent of reusability of assets, GPU usage, infrastructure utilization, license utilization, speed of automation/ implementation, STP rate, number of robots, and number of transactions/tasks automated

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
A. Vision & strategy	Targeted process types for Smart RPA adoption	Simple processes; transactional, rules-based tasks with structured data flow (data in enterprise databases, well-organized data sets in excel workbooks, etc.)	Content-centric processes and simple processes; transactional, rules-based tasks with significant semi-structured data flow (such as documents such as PDF, email, word, and scans without much variance in templates)	Customer-centric processes and content-centric processes and simple processes; high volume, judgement-based, interactive tasks with unstructured data flow (chat, voice, data from social media, etc.)	Domain-centric processes and customer-centric processes and content-centric processes and simple processes; highly judgment-based / decision-making tasks requiring critical thinking (such as large multi-page documents such as legal contracts, handwritten documents, and checks)
	Changes to business processes for Smart RPA adoption	No meaningful changes to business processes	Significant changes to a few business processes	Simplified and reengineered business processes to leverage Smart RPA initiatives	Defined future state for all business processes and then reengineered business processes

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
B. Organization & talent	Smart RPA team structure	No dedicated Smart RPA team within the organization	Decentralized Smart RPA operations; each business unit has its own Smart RPA team	Centralized Smart RPA team that defines and implements Smart RPA initiatives for the entire organization	Hybrid Smart RPA operations; decentralized Smart RPA teams from business units work closely with a central team to implement Smart RPA initiatives
	Type of Smart RPA CoE	No formal CoE set up for Smart RPA initiatives	Specialized CoE for some specific Smart RPA initiatives	Centralized Smart RPA COE for all Smart RPA projects	Hub and spoke Smart RPA CoE model with a presence across business units
	Scope of the Smart RPA CoE	Less than 40% of Smart RPA projects are governed by the CoE	Around 40-60% of the Smart RPA projects are governed by the CoE	About 60-80% of the Smart RPA projects are governed by the COE	More than 80% of the Smart RPA projects are governed by the CoE
	Sharing/pooling of Smart RPA skills	No sharing/pooling of Smart RPA skills	Sharing/pooling of Smart RPA skills within regional business units/functions	Sharing/pooling of Smart RPA skills within business functions across geographies	Organization-wide sharing/pooling of Smart RPA skills across most Smart RPA initiatives across most business functions and geographies

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
B. Organization & talent	Roles and responsibilities of the CoE	Drive the roll-out and implementation of Smart RPA projects and ensure coordinated communication with relevant stakeholders; loosely defined roles, responsibilities, and skill sets required	Ensuring quality and compliance through well-defined standards, procedures, and guidelines, owned and developed by the CoE; drive the roll-out and implementation of Smart RPA projects and ensure coordinated communication with relevant stakeholders; some key roles and responsibilities are well-defined	Approves all automation procedures before they are put into production, assesses suitability of Smart RPA vs. other Smart IT tools for use cases and ensures quality and compliance through well-defined standards, procedures, and guidelines, owned and developed by the COE; drives the roll-out and implementation of Smart RPA projects, and ensures coordinated communication with relevant stakeholders; well-defined roles, responsibilities, and skills sets required	Smart RPA training and education program to develop talent and approves all automation procedures before they are put into production, assesses suitability of Smart RPA vs. other Smart IT tools for use cases and ensures quality and compliance through well-defined standards, procedures and guidelines owned and developed by the COE. Drives the roll-out and implementation of Smart RPA projects, and ensures coordinated communication with relevant stakeholders; well-defined roles, responsibilities, and skills sets required that are regularly reviewed and optimized

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
B. Organization & talent	Reusability of automations	Does not have a library of reusable automations	Has developed libraries of reusable automations but does not share it with other business units / regions	Developed libraries of reusable automations are shared across some business units / regions	Developed a central library of reusable automations that are shared across the organization globally
	Primary use of process data from automations	Monitoring performance of automation assets and applications	Monitors utilization of available resources, refines/updates automated workflows to reduce exceptions, and collects training data for AI	Finds gaps in existing processes to optimize/ re-engineer/streamline them and make them more efficient	Predicts future trends in demand and customer behavior to develop/ refine future capacity planning / business strategies
	Focus on tracking/optimizing the effectiveness of the program	Collection and usage of performance data are ad hoc, sporadic, and uncoordinated	Performance data is regularly (monthly/weekly) collected to produce reports and dashboards with some useful information	Performance is monitored in real-time and performance data is collected and used in a coordinated fashion to gain new insights that improve operational decision-making	Performance is monitored in real-time and performance data is collected and used in a coordinated fashion to make operational and strategic decisions and develop strategic foresight and predictions for the future

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
B. Organization & talent	Focus on tracking/optimizing the benefits achieved	Collection and usage of impact data are ad hoc, sporadic, and uncoordinated	Impact data is regularly (quarterly) collected to produce reports and dashboards with some useful information	Impact data is regularly (monthly) collected and used in a coordinated fashion to gain new insights that improve operational decision-making	Impact data is regularly collected/monitored 24X7 and used in a coordinated fashion to make strategic and operational decisions as well as to develop strategic foresight and predictions for the future
	Level of employee engagement	Few people proactively engaging in some of the Smart RPA initiatives	More believers who engage in Smart RPA initiatives	Organization-wide employee engagement; some internal experts to facilitate engagement; developing culture of innovation and design thinking	Front-end to the CoE constituting internal experts, set up across the organization for employee experience and engagement; rewards system for contribution; integrated culture of innovation and design thinking

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
B. Organization & talent	Availability of training/learning and awareness programs	Limited training and awareness programs	Informal structure; external training/ learning; awareness programs made available to a focused group of stakeholders	Formal structure; external/customized training to reskill/upskill resources and provide alternate career paths; organization-wide education and awareness programs	Organization-wide, integrated, and specialized internal training, education, and awareness programs to reskill/upskill resources, provide alternate career paths, educate stakeholders on capabilities and benefits of Smart RPA, and proactively address concerns around technology
	Nature of impact on employees	No attempt to redeploy/reskill/upskill employees released due to Smart RPA initiatives	Modest attempts made to redeploy employees released due to Smart RPA initiatives in other areas (such as minimal investment and management commitment)	Significant attempts made to reskill and redeploy employees released due to Smart RPA initiatives by providing alternate career paths (such as education program set up for reskilling)	Significant attempts made to reskill/upskill employees released due to Smart RPA initiatives to do higher value work and provide alternate career paths (for example education program set up for reskilling and upskilling)

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
C. Technology	RPA	Primarily attended RPA/ RDA; ad hoc integration with collaborative technologies	Attended RPA/RDA and unattended RPA to batch process tasks; basic integration with collaborative technologies	Autonomous RPA with human-in-the-loop for real-time exception handling and user interaction; integrated with most of the collaborative technologies and enterprise applications	RPA-as-a-service; autonomous RPA with human-in-the-loop for real-time exception handling and user interaction; seamless integration with collaborative technologies and enterprise applications
	Pre-built, reusable templates and automations from vendors, service providers, or marketplaces	None	Process-/industry-neutral templates and automation activities/subtasks (for example login, logout, and currency conversion)	Horizontal function-specific templates and automation assets (F&A, HR, CXM, etc.) and process-/industry-neutral templates and automation activities/sub-tasks (for example login, logout, and currency conversion)	Industry vertical-specific templates and automation assets (for example KYC/AML, claims processing) and horizontal function-specific templates and automation assets (F&A, HR, CXM, etc.) and process-/industry-neutral templates and automation activities/sub-tasks (for example login, logout, and currency conversion)

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
C. Technology	OCR / computer vision	Basic OCR for digitizing content; typed text	OCR and ML and rules; document classification, data capture, and extraction using machine learning, template-based rules, and validation; block letters (typed or handwritten)	OCR and auto ML and NLP; document classification, data capture, and extraction using real-time/active learning, auto ML, NLP, intent analysis, rules, and validation; block letters (typed or handwritten)	OCR and domain ontology and Deep Learning and auto ML and NLP; document classification, data capture, and extraction using real-time/active learning, auto ML, NLP, intent analysis, rules, and validation; cursive writing with good level of accuracy
	Analytics	Reporting analytics	Descriptive analytics (reporting)	Predictive analytics (reporting and descriptive)	Prescriptive analytics (reporting, descriptive and predictive)
	Chatbots	Simple, rules-based	Rules-based and text analysis	ML and NLP and sentiment analysis and emotional analysis and next-best-action	Deep learning and auto ML and NLP and sentiment analysis emotional analysis and contextual and domain ontology

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
C. Technology	Process orchestrator / BPM	Do not use any central orchestrator / BPM; manual orchestration	Central orchestrator for unattended RPA tasks	Central orchestrator for all types of RPA (attended / unattended / human-in-the-loop) and exception handling tasks; API integration with a third-party BPM tool (for example, API enables the BPM to trigger robots); intelligent workload balancing	Central orchestrator / BPM (process orchestrator technology that combines the functionality of RPA orchestration and BPM) for end-to-end processes across RPA, system, and human tasks; seamless/robust integration with a third party BPM tool where BPM can interact with robot just the same way as the orchestrator does (for example, having real-time status); intelligent workload balancing
	Hosting type	Physical, desktop-based	On-premise server-based	Private cloud-based, hybrid	Public cloud-based, hybrid
	Process mining	Do not use any process mining tool	Captures/discovers desktop processes	Identifies gaps in the captured processes	Optimizes the captured processes

Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
D. Resourcing	Sourcing of Smart RPA talent	Leveraging existing resources with limited training and Smart RPA skills	External/third-party resources and leverages existing resources with limited training and Smart RPA skills	New hires and external/third-party resources	Reskilled/upskilled resources with well-structured Smart RPA training and new hires and external/third-party resources
	Smart RPA training and education	No formalized Smart RPA training and education program	External Smart RPA training by vendors / service providers	Well-structured Smart RPA internal training program; primarily for RPA skills	Integrated Smart RPA training and education programs that are continuously reviewed and optimized; for RPA and AI / data science skills

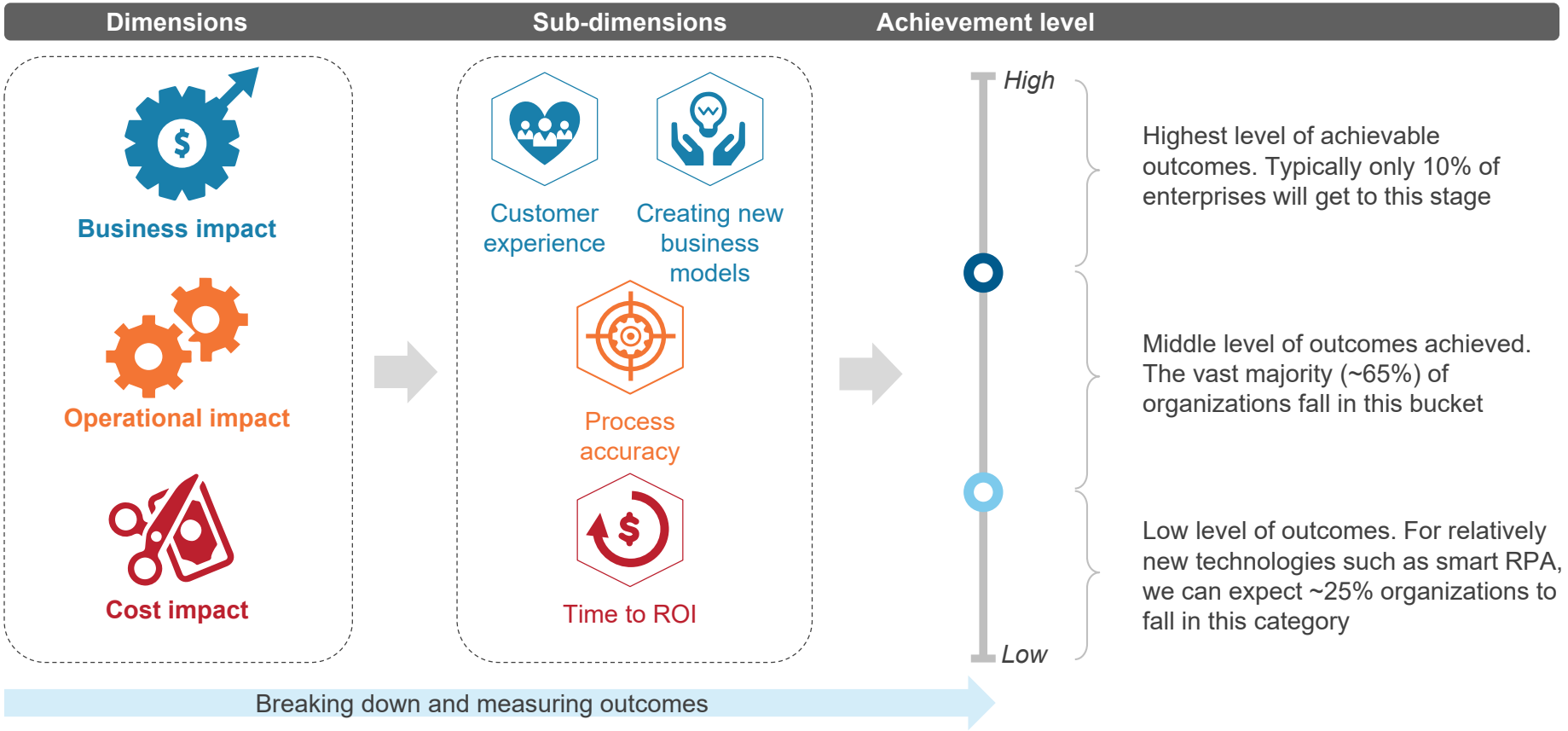
Enterprise Smart RPA capability maturity model

Enterprise Smart RPA capability maturity model					
Journey components	**Capability elements**	**Basic**	**Typical**	**Advanced**	**Pinnacle**
E. Implementation (scale, scope, and speed)	Distribution of Smart RPA projects by stage	Most of the Smart RPA projects are in the planning or piloting stage	Most of the Smart RPA projects are in the pilot stage	Most of the Smart RPA projects are being scaled up from pilots	Most of the Smart RPA projects are in steady-state implementation stage
	Scale of Smart RPA adoption	Less than 10% of potential tasks/ transactions have been automated or fewer than 10 processes	Around 10-30% of potential tasks/ transactions have been automated or five to 20 processes	30-60% of potential tasks/transactions have been automated or 20 to 100 processes	More than 60% of potential tasks/ transactions have been automated or more than 100 processes
	Scope of Smart RPA deployments across functions	One business function	Two to three business functions	Four to five business functions	More than six business functions
	Speed of Smart RPA adoption	Up to five RPA robots/licenses per quarter on an average	Six to 15 RPA robots/licenses per quarter on an average	16 to 25 RPA robots/licenses per quarter on an average	More than 25 RPA robots/licenses per quarter on an average

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
  - Assessment of Smart RPA capability maturity
  - **Assessment of Smart RPA outcomes**
- Developing the business case for Smart RPA
- Appendix

Pinnacle Enterprises™ Smart RPA outcomes model helps understand your current state and goals for the desired target state



- Overall, outcome is measured through a combination of three factors: cost impact, operational impact, and business impact
- Each of these are further broken down into sub-dimensions that fall into one of three buckets depending on the level of outcome achieved. The exact measure of outcomes will vary significantly by the portfolio of processes being automated

Enterprise Smart RPA outcomes can be assessed across over multiple elements

Impact dimensions	Sub dimensions
A. Business impact	A1. Improving customer experience A2. Creating new business models A3. Decreasing time-to-market for new and innovative products and services A4. Process transformation and design thinking A4. Improving employee experience
B. Operational impact	B1. Increase in process accuracy B2. Reduction in process cycle time B3. Improvement in staff productivity B4. Improvement in SLA compliance
C. Cost impact	C1. Return On Investment (ROI) from Smart RPA initiatives C2. Capacity enhancement from Smart RPA C3. Time taken to achieve ROI from Smart RPA initiatives C4. Cost reduction and cost avoidance from Smart RPA (extent of improvement over pre-RPA scenario)

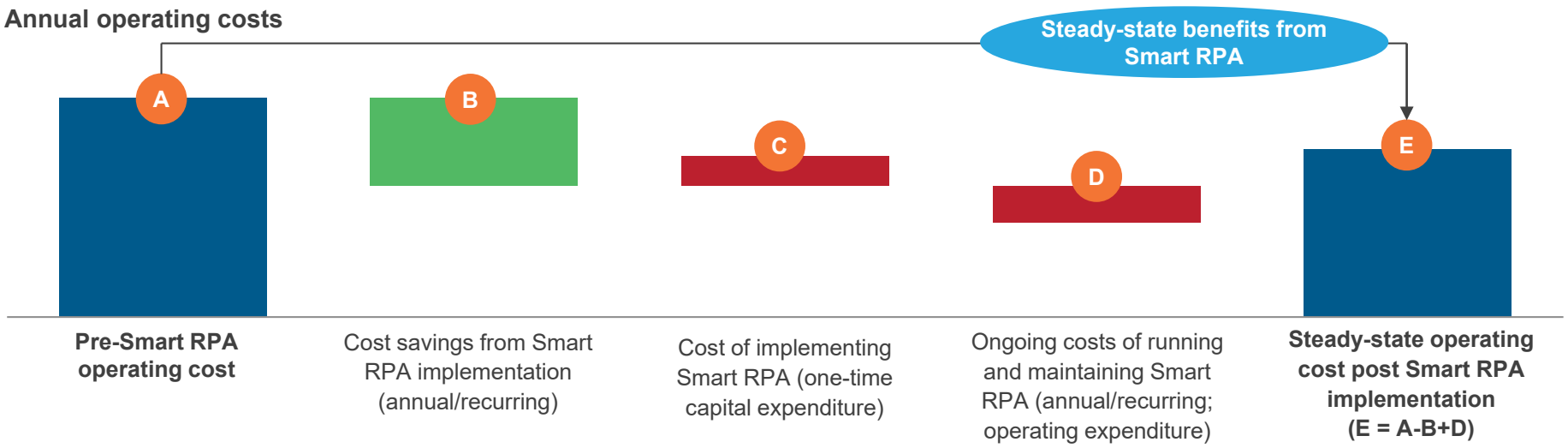
Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- **Developing the business case for Smart RPA**
  - **Key assumptions and framework for assessment**
  - Aggregated business case for an enterprise
  - Business case for front-office operations
  - Business case for back-office operations – F&A
  - Business case for back-office operations – P&C insurance processes
- Appendix

Key assumptions and assessment framework (page 1 of 3)

Operating model	• We have considered a P&C insurance enterprise that leverages onshore and offshore locations for delivery. The delivery pyramid is offshore-heavy at the bottom and onshore-heavy at the top • Cost savings from offshoring/outsourcing are already realized, and these benefits are not considered in this analysis
Scale	• The enterprise generates US$10 billion in revenue with 5,500 FTEs across front-office (contact center), back-office (finance & accounting), and insurance-specific back-office processes • The enterprise's volume of work post-RPA is the same as pre-RPA • For this assessment, we have considered that FTEs impacted by Smart RPA have been appropriately redeployed across other functional areas within the enterprise, and their associated costs have been excluded from the operating costs for delivery after RPA implementation
Process mix and delivery pyramid	• Contact center, F&A, and insurance-specific FTEs are appropriately distributed among transactional and judgment-intensive processes with typical potential extent of automation • A typical employee pyramid has been considered, which factors in the variation in talent mix before and after RPA implementation
Quantified benefits	We have taken into account the cost benefits through savings on: • People costs due to headcount saved, hiring avoidance, and productivity improvement • Non-people costs such as infrastructure, hiring, and new employee onboarding and training costs
Unquantified benefits	• Benefits from Smart RPA deployments such as improvement in process quality and speed, customer experience, governance and compliance, time-to-market for new products and services, and top-line growth have not been quantified for this analysis

Key assumptions and assessment framework (page 2 of 3)



- We have assumed a flat business case, in other words, pre-Smart RPA operating costs are assumed to remain constant. Ideally this would increase year-over-year due to salary increments, inflation, etc.

- Costs and savings realized are risk- and present value-adjusted for the ROI calculation
  - **Risk adjustment:** To account for potential risks of Smart RPA projects, such as slower project roll-out and benefit realization, change management, the greenfield nature of the technology, etc., savings have been adjusted down by 10%, and implementation and ongoing maintenance costs have been adjusted up by 15%
  - **Present value adjustment:** A yearly discount rate of 10% has been assumed to calculate the present value or current value of the costs

Key assumptions and assessment framework (page 3 of 3)

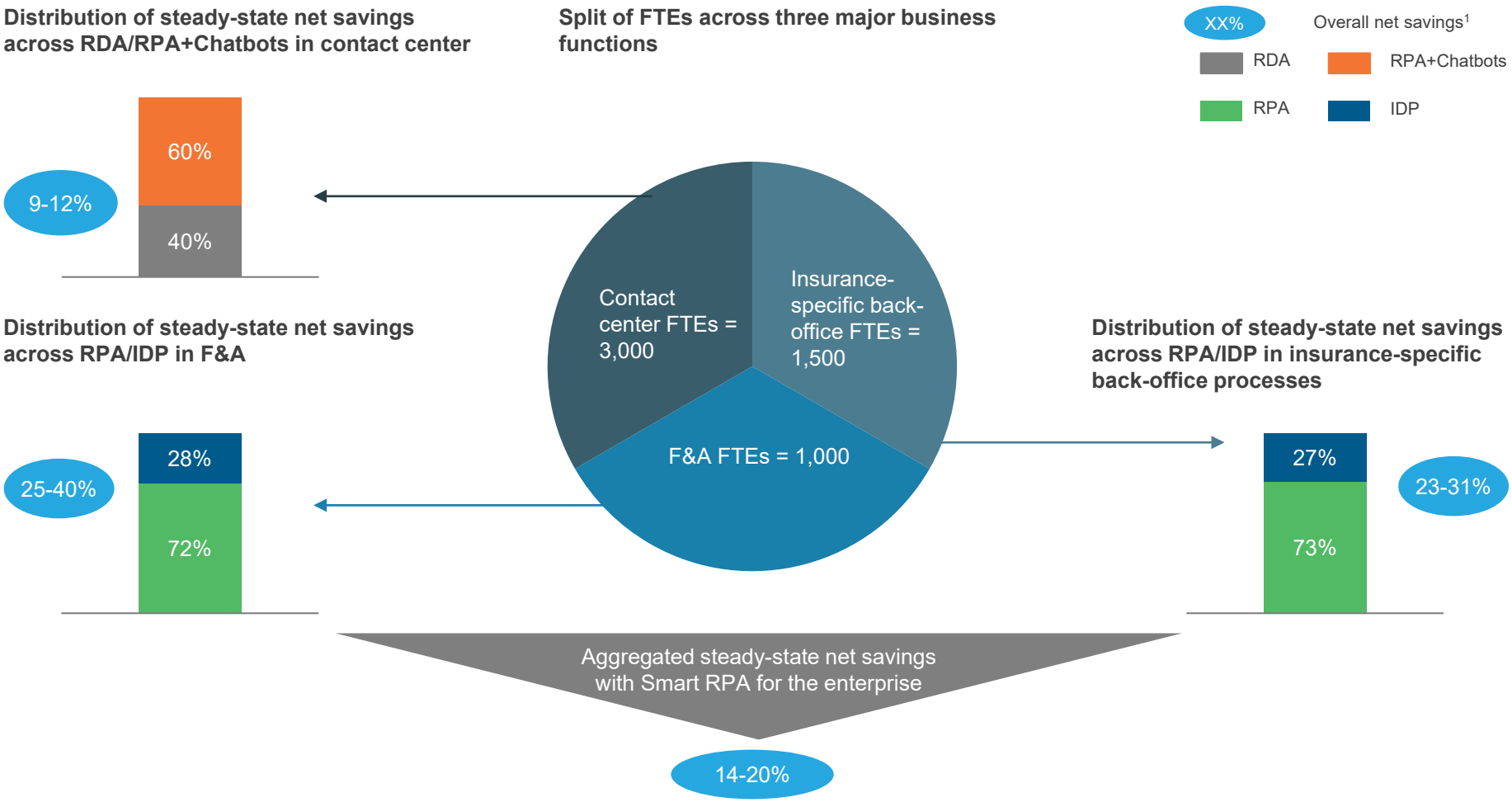
Description of cost components Smart RPA deployment

Cost components		Cost description
Capital expenditure (one-time costs)	Initial costs	Cost of planning, business case development, vendor selection, conducting POC, training, CoE enablement, support for initial implementation, etc. The cost is evenly distributed over the first two quarters of the Smart RPA journey
	Deployment/implementation cost	Cost of use case identification, development, environment set-up, testing, deployment, etc. One-time cash outlay, spread over the implementation period until steady-state is achieved
Operating expenditure (annual/recurring costs)	Software licensing cost	Ongoing cost of software, whether RDA (attended RPA), unattended RPA, IDP, or chatbot
	Hosting – virtual desktop cost	Ongoing cost of hosting RPA on a virtual desktop incurred in proportion to the number of RPA licenses deployed
	Hosting – central server cost	Ongoing cost of a central server for hosting RPA and IDP incurred once every year cumulatively for RPA and IDP
	Monitoring and maintenance cost	Ongoing cost of solution maintenance, monitoring, etc., incurred every quarter before and after the deployments reach steady-state

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
  - Key assumptions and framework for assessment
  - **Aggregated business case for an enterprise**
  - Business case for front-office operations
  - Business case for back-office operations – F&A
  - Business case for back-office operations – P&C insurance processes
- Appendix

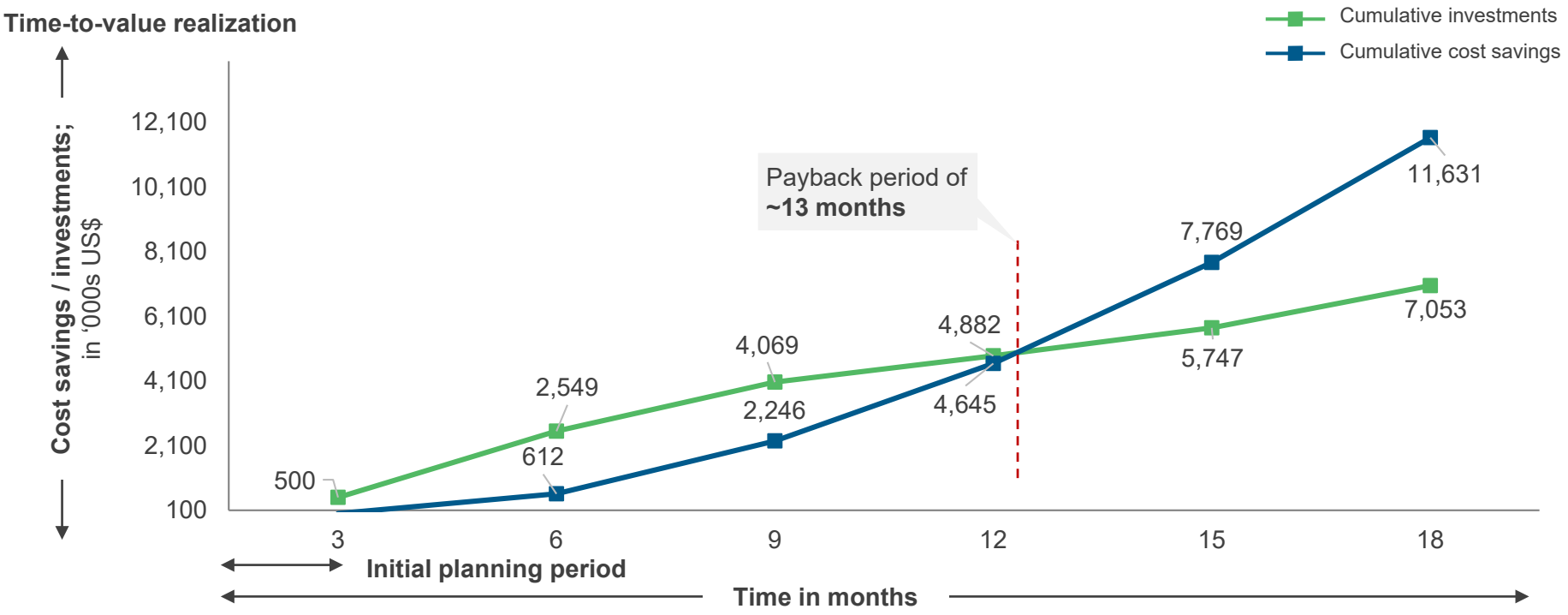
Business case at an enterprise level for a P&C insurer that has deployed Smart RPA solutions in contact center, F&A, and insurance-specific operations



1 Net savings shown are for Smart RPA projects in steady state and are computed as the cost of running and maintenance of Smart RPA technologies subtracted from the gross people and non-people costs savings when Smart RPA is at its full potential

Source: Everest Group (2018)

Aggregated payback period analysis for Smart RPA in a P&C insurance enterprise



- The payback period analysis for an actual enterprise could vary depending on multiple factors related to an organization's readiness for Smart RPA such as the extent of digitization and standardization of processes automated
- We have assumed an initial planning period of three months for business case development, vendor selection, conducting a POC, identifying targets for initial implementation, setting up the environment for initial implementation, etc.
- While RPA generates 100% savings in the next quarter of deployments, savings from AI are cumulatively spread across multiple quarters due to a learning period involved for AI to realize its full potential (until it reaches saturation)

Source: Everest Group (2018)

Smart RPA could deliver a risk-adjusted ROI of over 200% over a three-year period

Quantitative analysis of risk-adjusted ROI for Smart RPA
All figures in US$000s

Year	Year 1		Year 2		Year 3	
Impact	Low	High	Low	High	Low	High
Total cost of automation	4,179	4,639	5,657	6,436	5,247	6,066
Risk-adjusted present values of costs	4,065	4,513	4,909	5,585	4,061	4,694
Savings realized	4,645	6,292	16,869	23,380	27,898	38,744
Risk-adjusted present values of savings	3,800	5,148	12,547	17,390	18,864	26,198
Risk-adjusted ROI for a 3-year term	**= (sum of PVs of (savings - costs)) / (sum of PVs of costs)**			**=**	**~170 to 220%**	

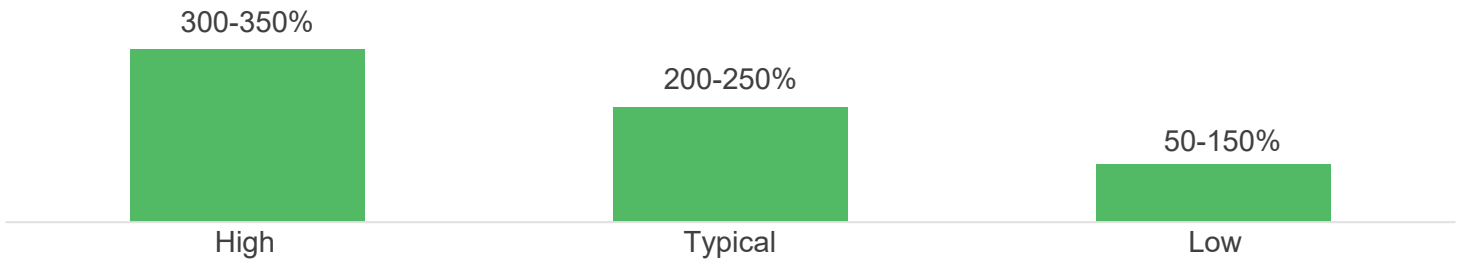
Key assumptions

- Total cost of automation and savings realized are cumulatively computed across contact center, F&A, and back-office insurance departments for a US$10 billion P&C insurer. Benefits realized from AI deployments increase gradually over a period of time to realize potential as the software is trained with more data sets to become smarter
- Cost and savings are risk- and present value-adjusted to calculate the ROI
- Initial cost of planning, vendor selection, etc., is estimated separately for contact center, F&A, and insurance-specific operations. To calculate aggregated ROI for Smart RPA for the enterprise, the sum of the initial cost across these business functions is discounted due to rationalization of similar costs at the enterprise level

ROI from Smart RPA could vary significantly based on specific organizational factors

Overall ROI from Smart RPA could vary significantly – from 50% to 350% – depending on specific organizational characteristics such as process maturity, standardization, delivery mix, and governance

ROI for a 3-year term
(Percentage of total investment)



Typical characteristics

- Consolidated FTEs across few delivery locations
- Highly standardized, harmonized, and well documented processes
- Use cases consisting of onshore and offshore/nearshore resource mix
- Highly experienced deployment team / strong Automation CoE support to start with
- High alignment of IT and senior leadership to address any roadblocks / change management
- Short (one to two waves with lift-and-shift approach and limited process changes) or no transition

Typical characteristics

- Fragmented FTEs across multiple delivery locations
- Low standardization and harmonization with little or no process documentation
- Use cases consisting of nearshore and offshore resource mix
- Relatively newer deployment team / no or low support from Automation CoE at the start
- Low alignment of IT and senior leadership to address roadblocks / change management
- Multi-wave transition (three to five waves) that requires significant process re-engineering

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
  - Key assumptions and framework for assessment
  - Aggregated business case for an enterprise
  - **Business case for front-office operations**
  - Business case for back-office operations – F&A
  - Business case for back-office operations – P&C insurance processes
- Appendix

Summary of business case for Smart RPA in the front office

Smart RPA has the potential to provide steady-state net savings of 9-12%, 3-year risk-adjusted ROI of 40-50% and a payback period of ~13 months

Impact of Smart RPA on contact center operations in the given scenario
All costs in US$000s

Year	Year 1	Year 2	Year 3
Number of RDA licenses deployed	1,200-1,300		
Number of RPA licenses deployed	39	16	
Number of chats passed through chatbots[1]	202,071	2,172,267	2,829,000
Initial costs	350		
Deployment costs for RDA and RPA+Chatbots	547	319	0
Hosting – virtual desktop costs	39	54	54
Hosting – central server costs	3	3	3
Monitoring and maintenance costs (RDA+RPA+Chatbots)	46	192	201
License costs for RDA	1,489	1,489	1,489
License costs for RPA	154	216	216
License costs for Chatbots	81	869	1801
Total costs of automation (sum of all software and services costs listed above)	2,708	3,141	3,960
Risk-adjusted PVs of costs	2,634	2,726	3,064
Savings realized from Smart RPA	2,593	5,945	6,627
Risk-adjusted PVs of savings	2,122	4,422	4,481
Risk-adjusted ROI for a 3-year term	**= sum of PVs of (savings-costs) divided by sum of PVs of costs**		= ~40 to 50%

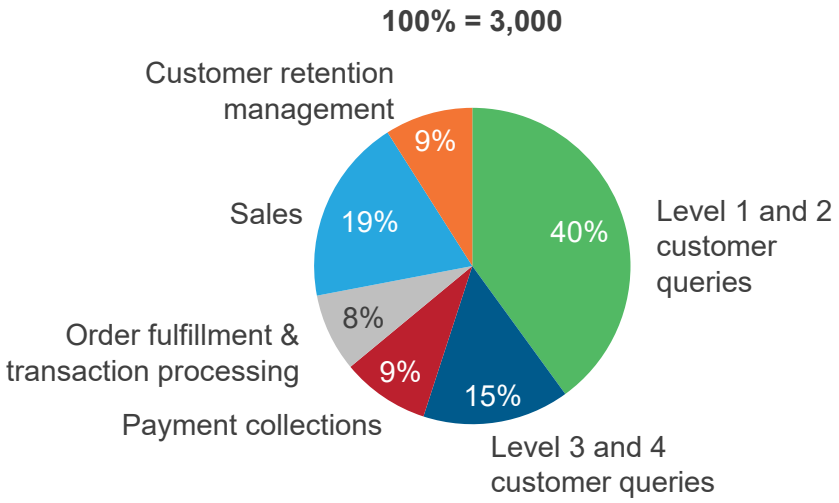
1 License cost for chatbots is calculated based on the number of chat requests passing through the chatbots
Source: Everest Group (2018)

Business case for Smart RPA | Front-office automation

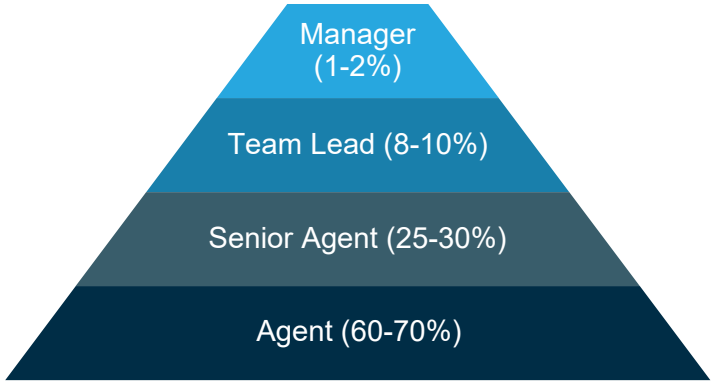
Impact of automation in the front office has been analyzed with a focus on contact center operations

Business scenario

Split of contact center FTEs by process for a typical enterprise
Percentage of FTEs



Pre-Smart RPA delivery pyramid
Percentage of FTEs



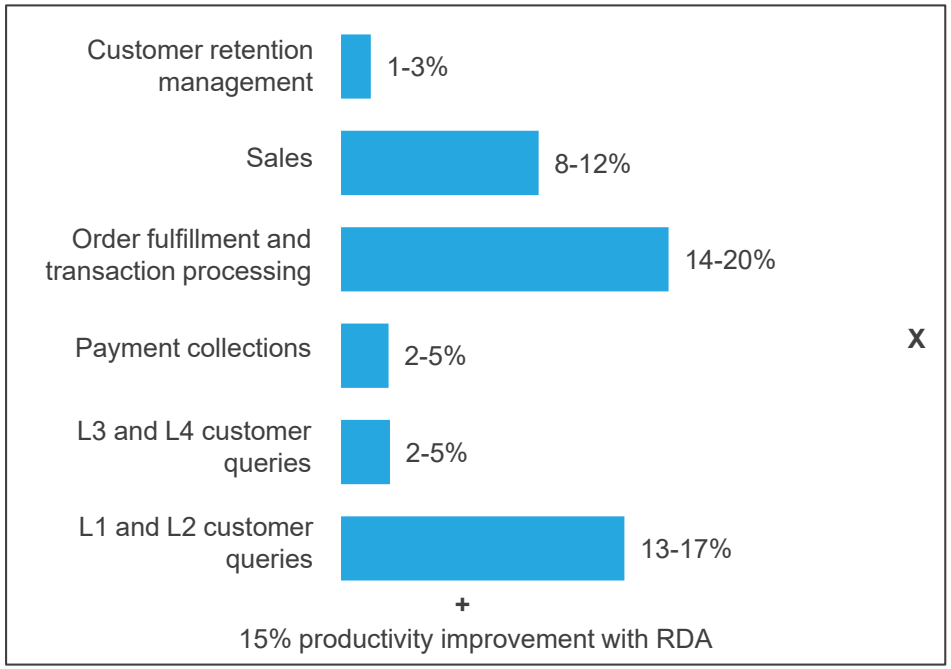
Description of the enterprise's contact center operations

- The enterprise's contact center operations are delivered from both offshore and onshore locations
- A typical contact center function delivery pyramid consists of agents, senior agents, team leads, and managers
- The cost of FTEs varies for onshore and offshore FTEs in each resource category in the delivery pyramid

Reduction in people cost due to Smart RPA (page 1 of 3)

FTE headcount reduction could be 8-12% with RPA+chatbots and 15-19% with collective impact of RDA, RPA, and chatbots

Impact of RPA+chatbots on FTEs across processes

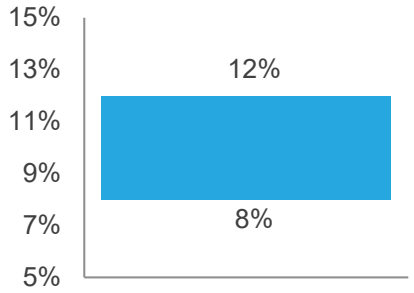


The number of RDA licenses is estimated with the following factors/assumptions:

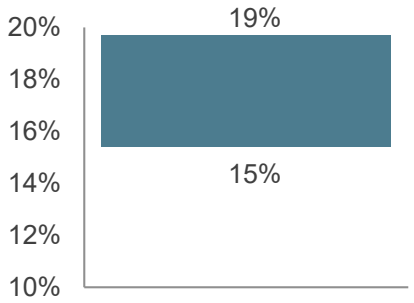
- Contact center agents leveraging RDA generates an average savings of 15%
- Average 8-12% headcount reduction resulting from RPA+chatbots implementation
- Assessment of potential of additional productivity benefits from RDA over macros and other basic automation tools that are typically used across contact center processes

Number of FTEs handling the contact center processes

FTE headcount reduction due to RPA and chatbots in contact centers
Percentage of total contact center FTEs



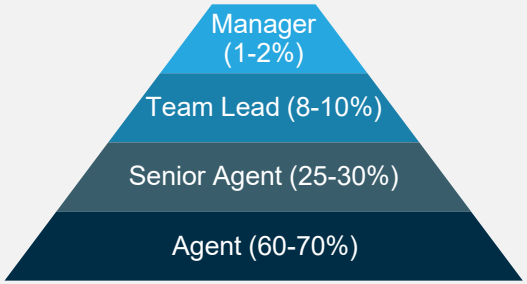
FTE headcount reduction due to RPA, chatbot, and RDA in contact centers
Percentage of total contact center FTEs



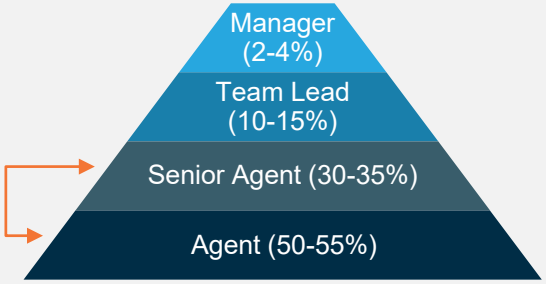
Reduction in people cost due to Smart RPA (page 2 of 3)

Blended compensation cost per FTE increases by 6-8% with RPA and chatbots due to movement of FTEs up the delivery pyramid

Pre-Smart RPA delivery pyramid



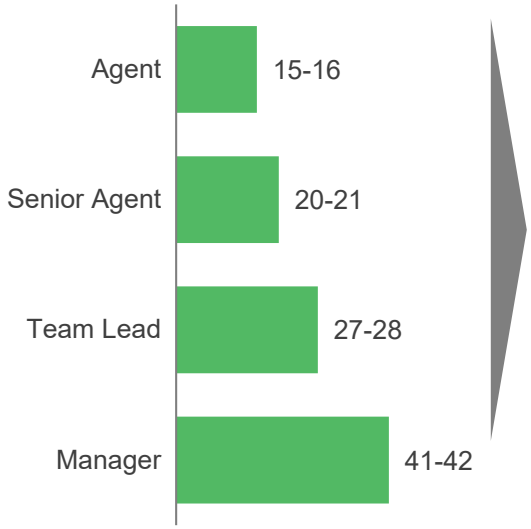
Post-Smart RPA delivery pyramid



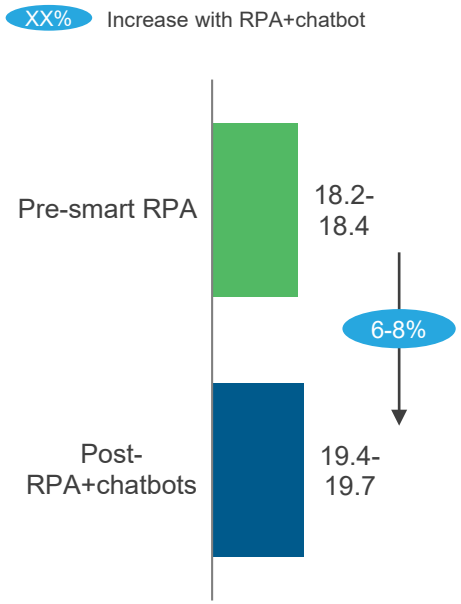
RPA leads to a lower FTE requirement at the bottom layer of the pyramid

Resources need to be upskilled to handle judgment-intensive/ customer-facing roles

Compensation cost per FTE[1];
2018; US$ in '000s per FTE per year



Blended compensation cost per FTE;
2018; US$ in '000s per FTE per year



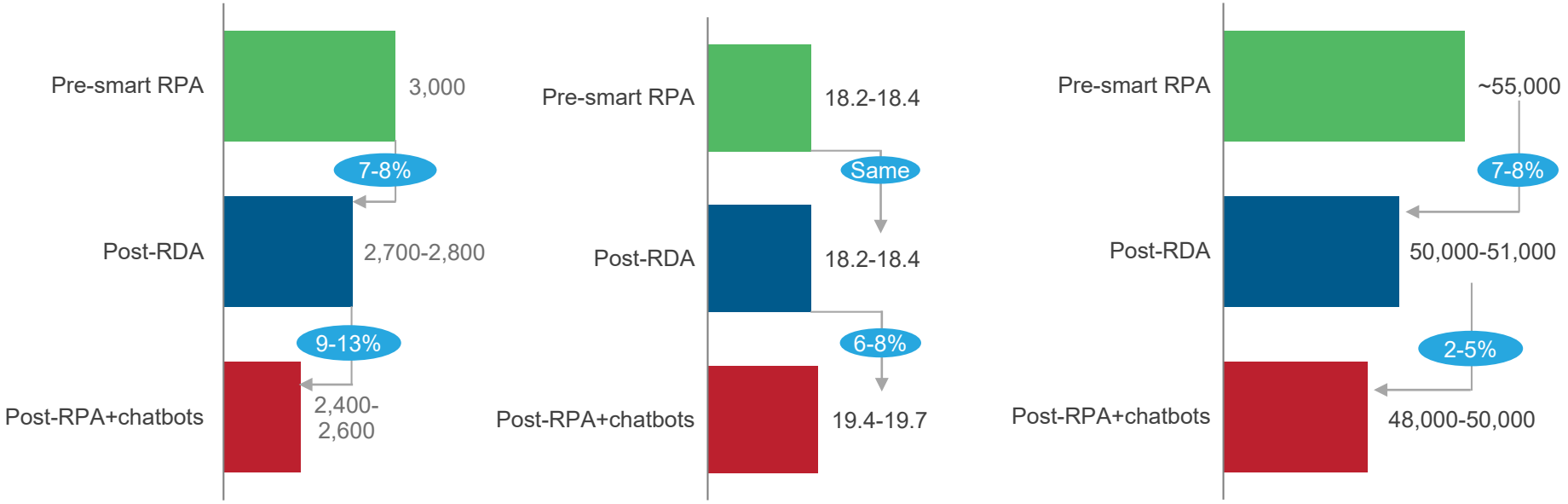
- The blended compensation cost per FTE after RPA implementation increases due to the movement of agents and senior agents to higher levels in hierarchy
- However, the blended compensation cost per FTE after chatbot implementation declines slightly as chatbots lead to automation of slightly judgment-intensive processes interaction processes, which impacts more FTEs in onshore than offshore locations

1 Includes salaries and mandatory benefits
Source: Everest Group (2018)

Reduction in people cost due to Smart RPA (page 3 of 3)

Decrease in FTE headcount and increase in blended compensation cost per FTE impact savings in total people costs with Smart RPA

Number of FTEs	X	Blended compensation cost per FTE; 2018; US$ in '000s per year per FTE	=	Total people cost; 2018; US$ in '000s per year



- In contact center operations, due to the interactive nature of processes, the impact of RPA and chatbots would be similar. While RPA would be leveraged only in non-interactive tasks such as updating customer information in excel sheets, chatbots hold more potential due to their ability to automate basic-level interactive processes. More complex interactive processes such as addressing L3 ad L4 customer queries would still need significant human involvement
- In the unique case of contact center operations, complex and sensitive interactions are usually delivered onshore/nearshore due to language barriers. Thus, chatbots would shift the delivery model slightly toward offshore leverage, thus decreasing blended compensation cost per FTE, unlike RPA, which increases the blended compensation cost per FTE
- The net impact is 7-8% total people cost savings with RDA and 2-5% total people cost savings with RPA+chatbots

Total cost reduction with Smart RPA

As processes are automated, non-people costs such as facilities and technology decrease by 8-12% with Smart RPA

Total people cost

Impact of RDA on total people cost

Total people cost reduced by 7 to 8% due to RDA

Reduction in people cost due to RDA;
US$ in '000s per year

Impact of Smart RPA on total people cost

Total people cost reduced by 2 to 5% due to RPA+chatbots

Incremental reduction in people cost due to Smart RPA;
US$ in '000s per year

Total non-people cost[1]

Impact of RDA on total non-people cost

Non-people cost is assumed not to be impacted with RDA deployment

Reduction in non-people cost due to RDA;
US$ in '000s per year

Impact of Smart RPA on total non-people cost

Total non-people cost reduced by 8 to 12% due to chatbots

Incremental reduction in non-people cost due to Smart RPA;
US$ in '000s per year

1 The reduction in non-people costs typically includes savings that can be achieved in facilities cost, technology cost, and other operation expenses (training & recruitment, administration, and overhead expenses)

Source: Everest Group (2018)

Implementation and running cost of Smart RPA

Costs for RDA, RPA, and chatbots have been accounted for separately where relevant

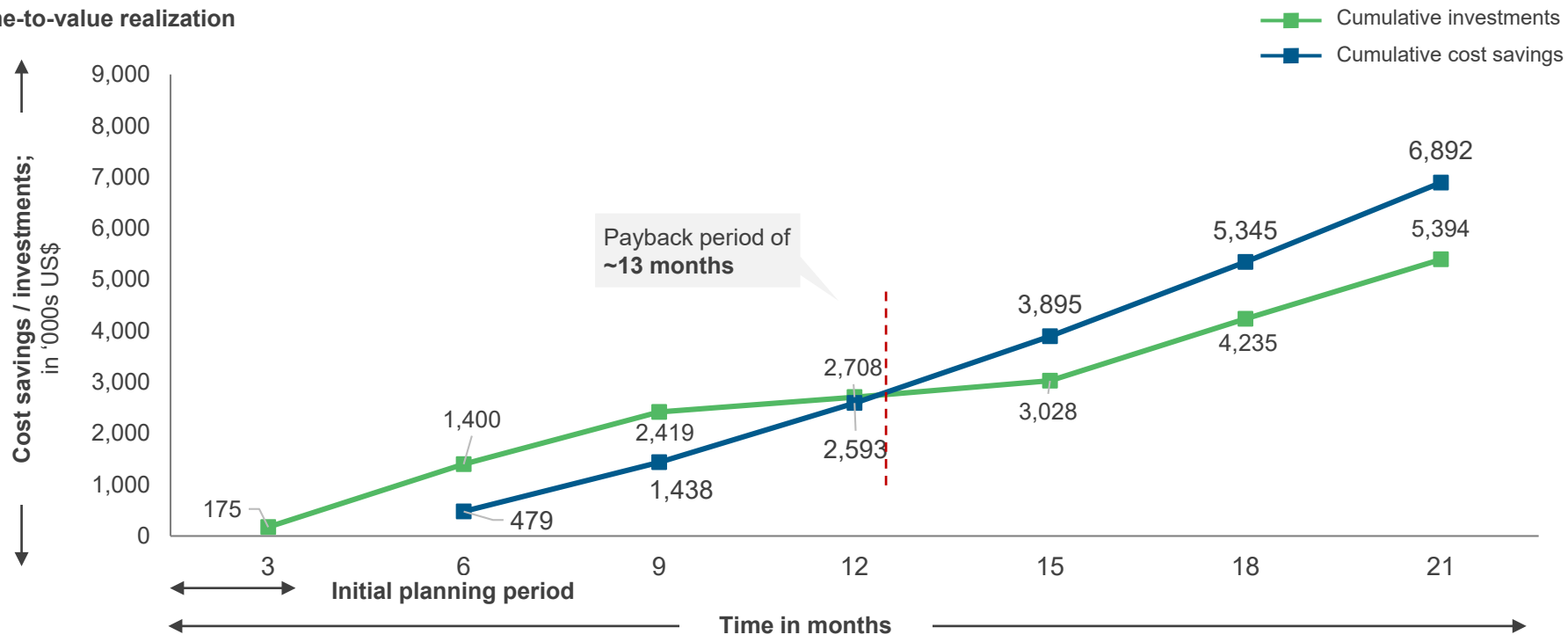
Analysis of cost components
All figures in US$

Cost components	RDA	RPA	Chatbots
Initial cost (planning, vendor selection, POC, initial implementation support, training, CoE enablement, etc.)	0	350,000 spread over the first two quarters; the first is for planning and the second for implementation support (implementation starts from the second quarter)	
Licensing cost (per year)	1,200 per license	4,000 per license	0.4 per chat request
Hosting – virtual desktop cost (per year)	0	1,000 per license	Included in license cost
Hosting – central server cost (per year)	0	3,000	Included in license cost
Monitoring and maintenance cost (per year)	0	1,500 per license (starting from the quarter after the one in which the RPA batch is deployed)	120,000 per year after the chatbot deployment reaches steady state (i.e., 14%)
Deployment cost (use case identification, development, environment set-up, testing, deployment, etc.)	200,000; distributed equally over RDA implementation period (i.e., two quarters)	4,000 one-time cost per robot	450,000 (total cost of chatbot implementation and maintenance until steady state)

Licenses required	RDA	RPA	Chatbots
Number of licenses	1,200-1,300 (calculated by FTEs requiring RDA licenses across all processes)	44-64 (assuming one RPA license automates two FTEs worth of work)	Licensing cost is based on the number of chats processed

Payback period analysis for Smart RPA in contact center operations

Time-to-value realization



- For this analysis, the benefits from RDA deployment in every quarter are assumed to be realized fully within the same quarter
- The organization has about 7% chat requests (out of the total requests across different channels). Due to chatbot deployment, the share of chat requests is assumed to increase to about 14% as a result of channel deflection over a period of about 12 months following chatbot implementation
- Chatbot is implemented and scaled up over a period of about seven quarters until it reaches steady state. In steady state, 14% of all contact center customer transactions/communications are assumed to be chat-based. Benefits realized through chatbots depend on the number of chats passed through chatbots and the percentage of those chats that are straight-through processed by chatbots without human intervention. The number of chats passing through chatbots scales up every quarter from 4% to 14% of total requests in the contact center across all channels

Source: Everest Group (2018)

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
  - Key assumptions and framework for assessment
  - Aggregated business case for an enterprise
  - Business case for front-office operations
  - **Business case for back-office operations – F&A**
  - Business case for back-office operations – P&C insurance processes
- Appendix

Summary of business case for Smart RPA in F&A

Smart RPA has the potential to deliver steady-state net savings of 25-40%, 3-year risk-adjusted ROI of ~250%, and a payback period of ~12 months in F&A operations

Impact of Smart RPA on F&A operations in the given scenario
All costs in US$000s

Year	Year 1	Year 2	Year 3
Number of RPA licenses deployed[1]	70	94	23
Number of IDP licenses deployed[1]	8	10	3
Initial costs	300		
Deployment costs for RPA	282	376	94
Deployment costs for IDP	70	94	23
Hosting – virtual desktop costs (RPA)	70	164	188
Hosting – central server costs (RPA and IDP)	10	10	10
Monitoring and maintenance costs (RPA)	26	158	273
Monitoring and maintenance costs (IDP)	6	35	61
License costs for RPA	282	657	751
License costs for IDP	78	183	209
Total costs of automation (sum of all software and services costs listed above)	1,125	1,677	1,608
Risk-adjusted PVs for costs	1,094	1,455	1,244
Savings realized from Smart RPA	1,131	5,996	10,173
Risk-adjusted PVs of savings	925	4,459	6,879
Risk-adjusted ROI for a 3-year term	**= sum of PVs of (savings-costs) divided by sum of PVs of costs**		= ~220 to 270%

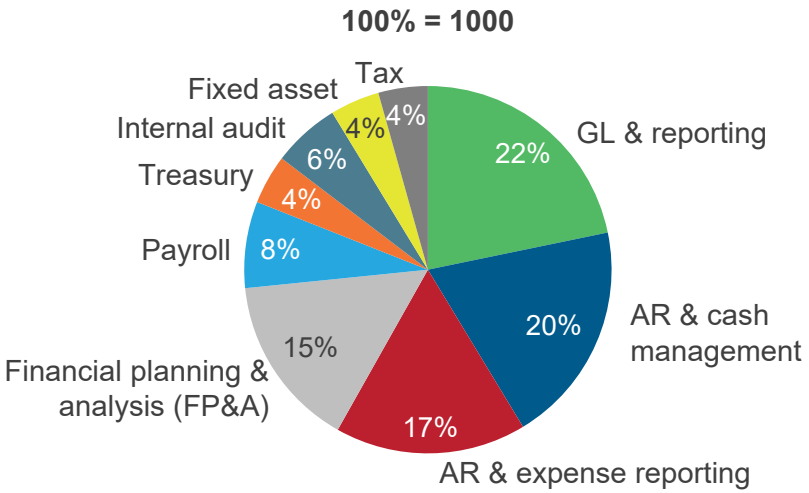
1 Deployment for both RPA and IDP starts from the second quarter and is spread equally over eight quarters
Source: Everest Group (2018)

Business case for Smart RPA | Back-office automation

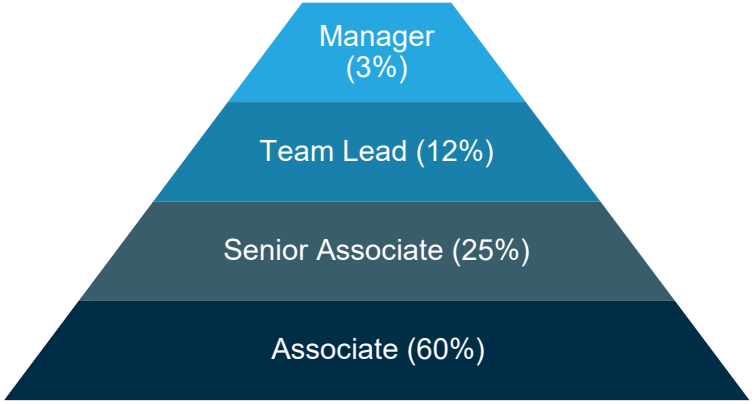
The impact of back-office automation been analyzed for F&A operations

Business scenario

Split of F&A FTEs by process for a typical enterprise
Percentage of FTEs



Pre-Smart RPA delivery pyramid
Percentage of FTEs



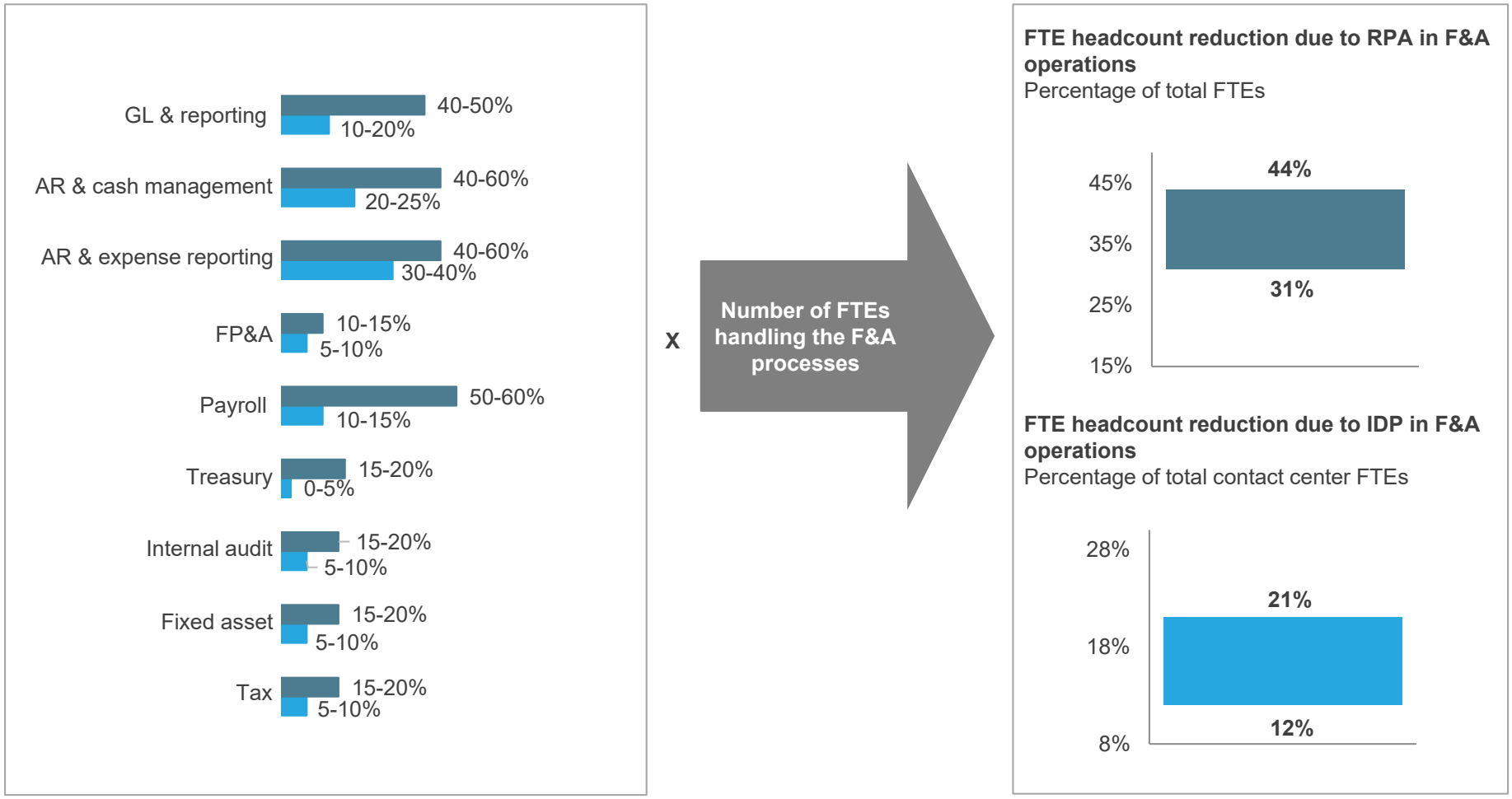
Description of the enterprise's F&A operations

- The enterprise's F&A operations are delivered from both offshore and onshore locations
- A typical employee delivery pyramid for the F&A function consists of associates, senior associates, team leads, and managers. The onshore-offshore employee mix at each level of the delivery pyramid varies by enterprise
- The FTE costs vary for onshore and offshore FTEs within each resource category in the delivery pyramid

Reduction in people cost due to Smart RPA in F&A (page 1 of 3)

FTE headcount reduction could be 31-44% with RPA and 12-21% with IDP

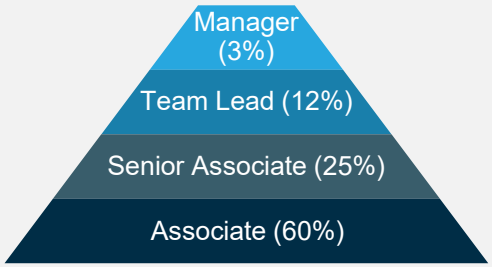
Impact of RPA and Intelligent Document Processing (IDP) on FTEs across processes



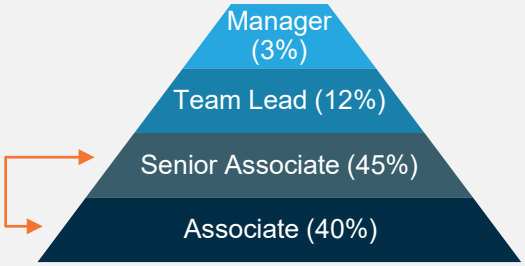
Reduction in people cost due to Smart RPA in F&A (page 2 of 3)

Due to movement of FTEs towards top of the delivery pyramid, blended compensation cost per FTE could increase by ~6% with RPA and ~9% with IDP

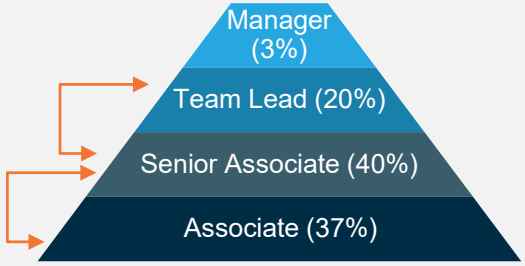
Pre-Smart RPA delivery pyramid



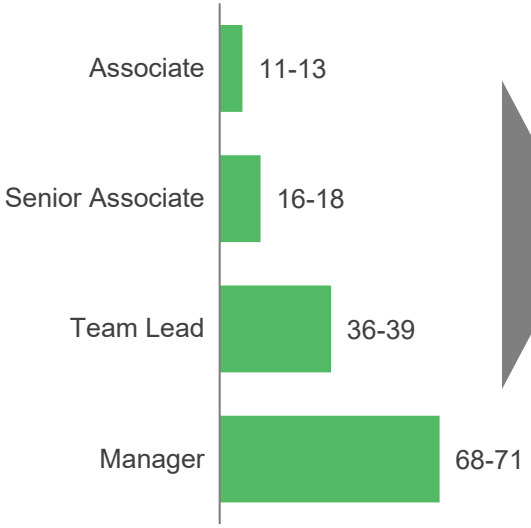
Post-RPA delivery pyramid



Post-IDP delivery pyramid

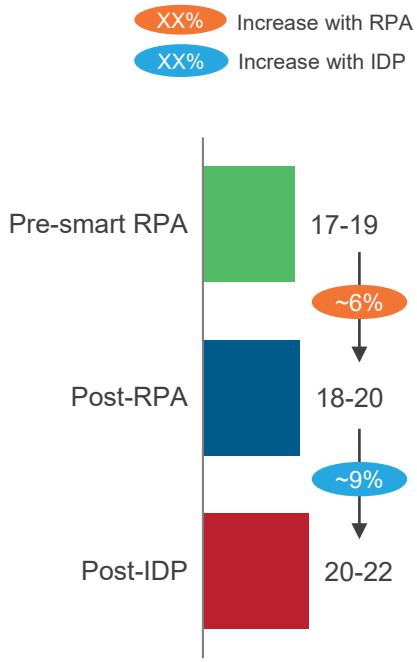


Compensation cost per FTE[1];
2018; US$ in '000s per FTE per year



Compensation cost per FTE has been calculated considering optimum distribution of FTEs at each level in the delivery pyramid across onshore and offshore locations

Blended compensation cost per FTE;
2018; US$ in '000s per FTE per year

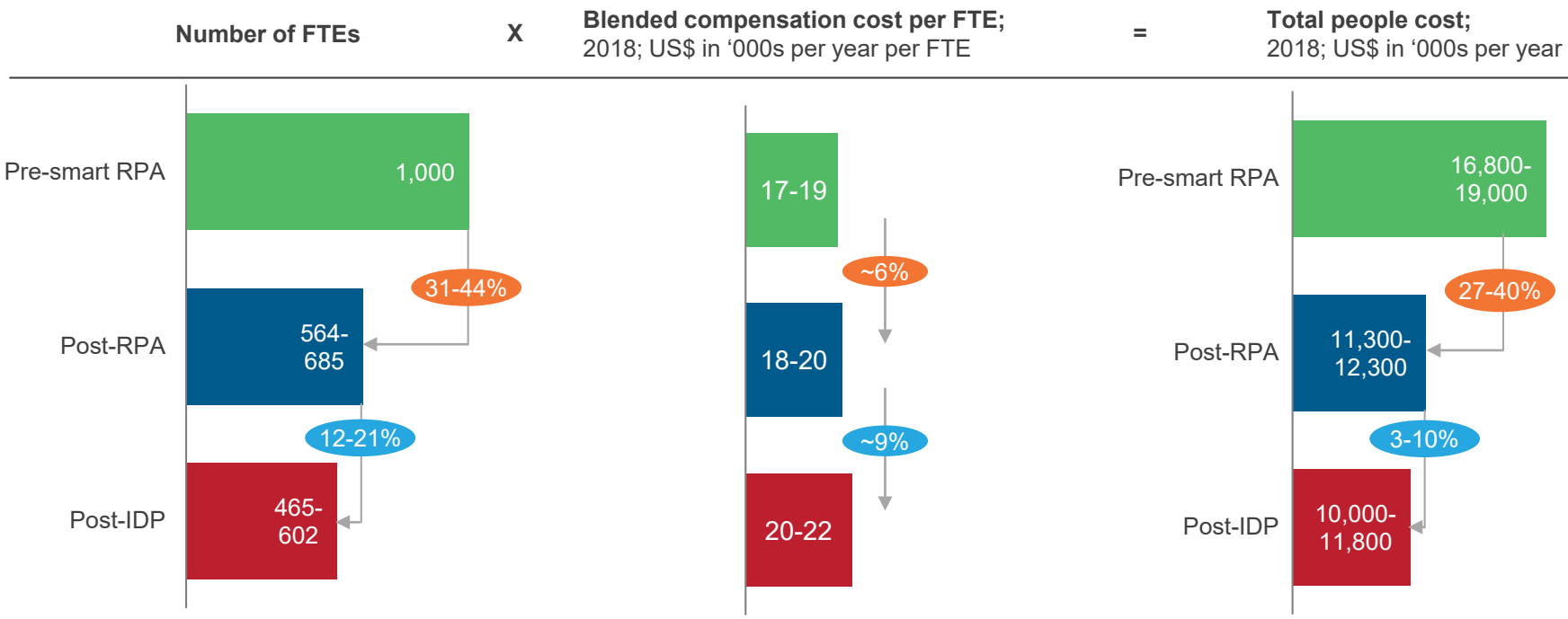


As associates and senior associates start to gather skills for more business-specific, judgment-intensive tasks, the delivery pyramid narrows at the bottom

1 Includes salaries and mandatory benefits
Source: Everest Group (2018)

Reduction in people cost due to Smart RPA in F&A (page 3 of 3)

Decrease in FTE headcount and increase in blended compensation cost per FTE together impact savings in total people costs with Smart RPA



- With Smart RPA, enterprises can directly benefit through headcount reduction in their delivery pyramids. Most of this reduction is in the bottom two levels of the delivery pyramid – Associates and Senior Associates. While RPA mostly frees FTEs from the Associate level, IDP has the potential to deliver headcount reduction at the Senior Associate level as well
- However, this movement of FTEs up the delivery pyramid increases the blended compensation cost per FTE, which puts a downward pressure on savings; the net effect is a 27-40% reduction in total people cost with RPA and 3-10% with IDP
- However, the FTEs deployed at the Associate and Senior Associate levels are mostly onshore, the net savings in total people cost could further decline due to higher compensation levels onshore

Total cost reduction with Smart RPA in F&A

As processes are automated, non-people costs such as facilities and technology costs decrease by 33-38% with RPA and 9-17% with IDP

Total people cost

Impact of RPA on total people cost

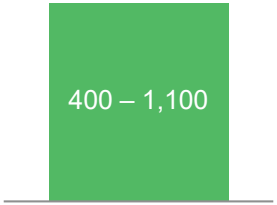
Total people cost reduced by **27 to 40%** due to RPA

Reduction in people cost due to RPA;
US$ in '000s per year

Impact of IDP on total people cost

Total people cost reduced by **3 to 10%** due to IDP

Incremental reduction in people cost due to IDP;
US$ in '000s per year



Total non-people cost[1]

Impact of RPA on total non-people cost

Total non-people cost reduced by **33 to 38%** due to RPA

Reduction in non-people cost due to RPA;
US$ in '000s per year

Impact of IDP on total non-people cost

Total non-people cost reduced by **4 to 11%** due to IDP

Incremental reduction in non-people cost due to IDP;
US$ in '000s per year

1 The reduction in non-people costs typically includes savings in facilities, technology, and other operations (training and recruitment, administration, and overhead expenses) costs

Source: Everest Group (2018)

Implementation and running cost of Smart RPA in F&A

Implementation costs computation assumes deployment of an equal number of robots every quarter, spread across two years

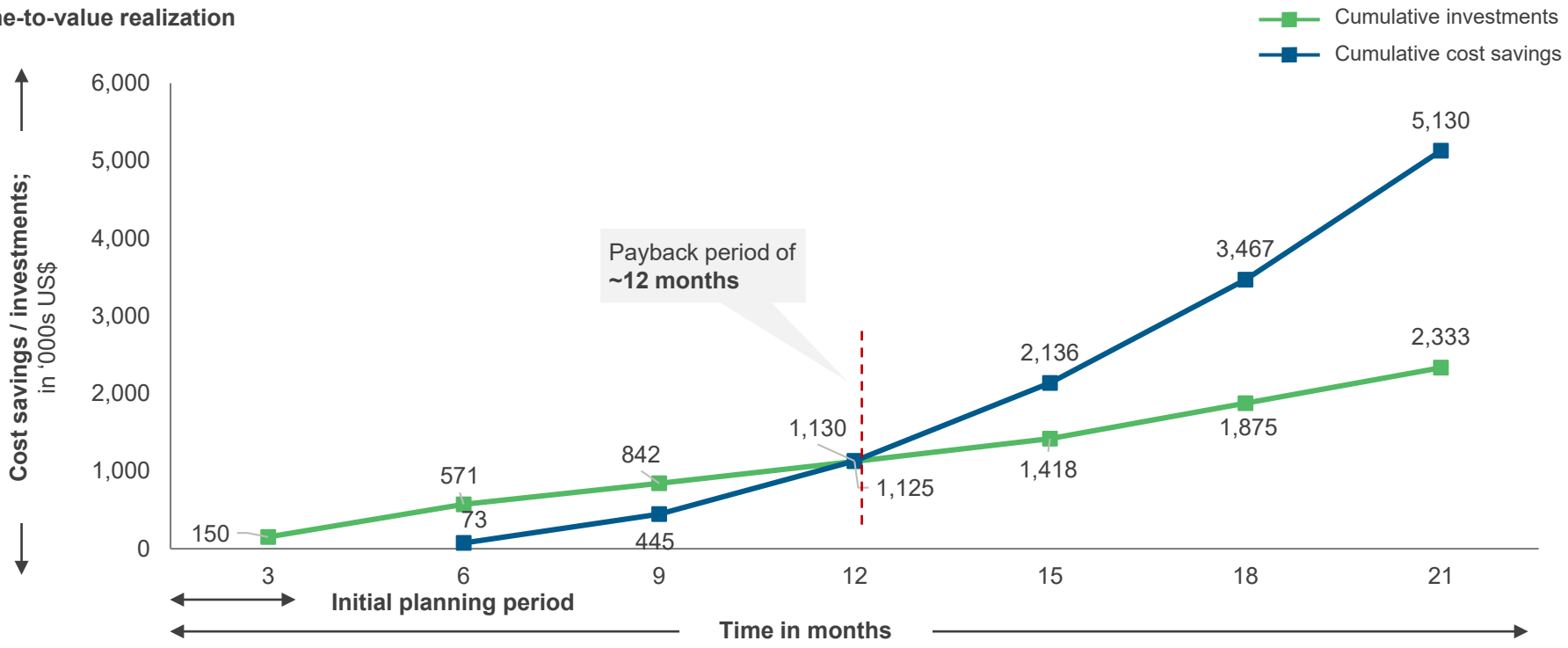
Analysis of various cost components
All figures in US$

Cost components	RPA	IDP
Initial cost (planning, vendor selection, POC, initial implementation support, training, CoE enablement, etc.)	300,000 incurred over the first two quarters of the Smart RPA project; the cost in the first quarter is for planning and in the second quarter is for implementation support (implementation starts from the second quarter)	
Licensing cost (per year)	4,000 per license	10,000 per license
Hosting – virtual desktop cost (per year)	1,000 per license	-
Hosting – central server cost	10,000 per year	
Monitoring and maintenance cost (per year)	1,500 per license starting from the quarter after the one in which the RPA batch is deployed	3,000 per license starting from the quarter after IDP is deployed
Deployment cost (use case identification, development, environment set-up, testing, deployment, etc.)	4,000 per robot	9,000 per robot

Licenses required	RPA	IDP
Number of licenses	157-218 (assuming one RPA license automates two FTEs' work)	21-25 (assuming one IDP license automates four FTEs' work)

Payback period analysis for Smart RPA in F&A

Time-to-value realization



- The payback period depends on two major factors
  - Speed of robot deployment and achievable scalability
  - Transition period to achieve the full potential of automation
- The benefit realization for IDP is spread across a longer time period than for RPA because an IDP robot has a learning period before it can deliver substantial savings
- For this analysis, the benefit realization for the RPA batch deployed in every quarter is assumed to be 25% in the same quarter and 100% in the following quarter; for IDP deployment, it is assumed to increase from 20% in the following quarter to 100% over a period of five quarters

Source: Everest Group (2018)

Key content

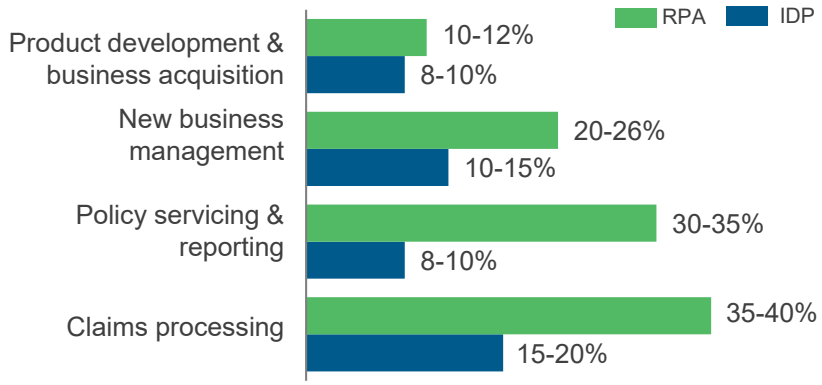
- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
  - Key assumptions and framework for assessment
  - Aggregated business case for an enterprise
  - Business case for front-office operations
  - Business case for back-office operations – F&A
  - **Business case for back-office operations – P&C insurance processes**
- Appendix

Business case for Smart RPA in P&C insurance | Key inputs

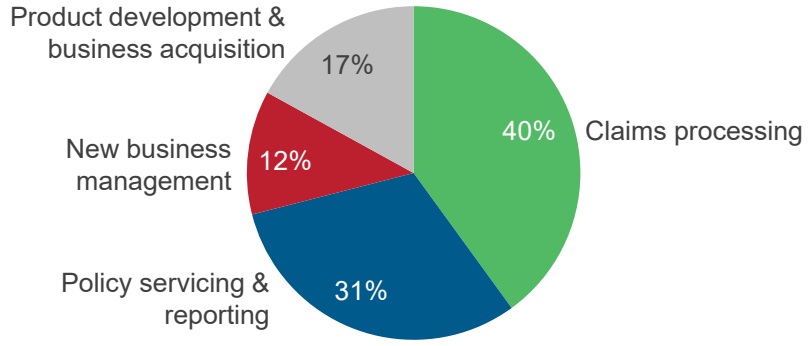
The business case for insurance-specific processes varies according to the automation potential, split of FTEs across processes, and delivery mix and pyramid

Four input assumptions for constructing the business case for Smart RPA in P&C insurance-specific back-office processes

Automation potential across processes (1)



Split of FTEs across processes (2)

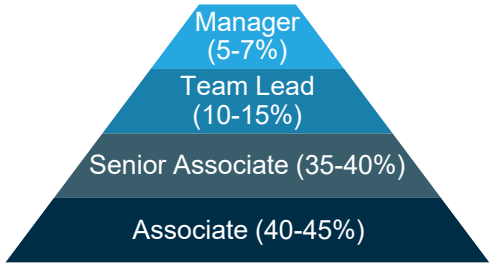


Onshore offshore delivery mix (3)

	Onshore	Offshore
Manager	75-80%	20-25%
Team Lead	65-70%	30-35%
Senior Associate	55-60%	40-45%
Associate	45-50%	50-55%

Delivery pyramid (4)

Pre-Smart RPA delivery pyramid



Summary of business case for Smart RPA in P&C insurance-specific processes

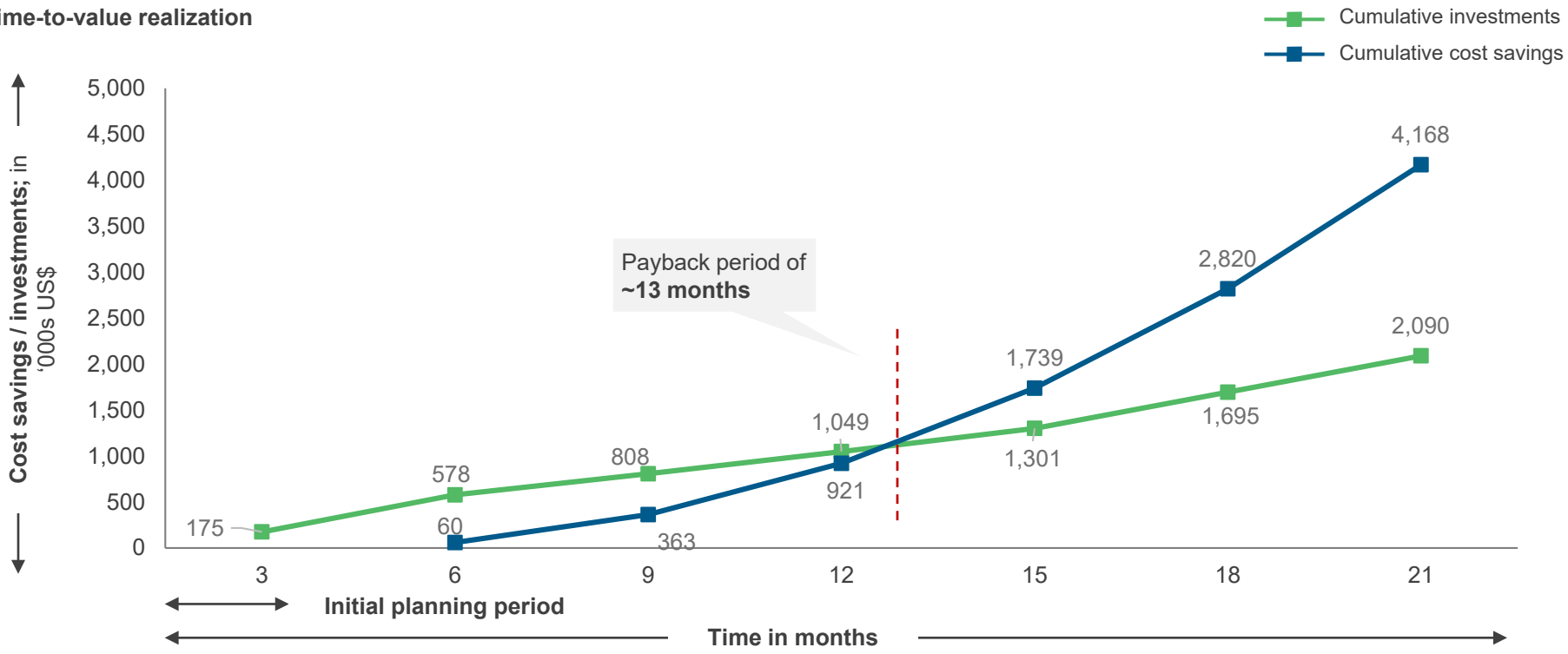
Impact of Smart RPA on insurance-specific back-office operations in the given scenario
All costs in US$000s

Year	Year 1	Year 2	Year 3
Number of RPA licenses deployed[1]	55	74	18
Number of IDP licenses deployed[1]	8	11	3
Initial costs	350		
Deployment costs for RPA	222	296	74
Deployment costs for IDP	74	98	25
Hosting – virtual desktop costs (RPA)	55	129	148
Hosting – central server costs (RPA and IDP)	10	10	10
Monitoring and maintenance costs (RPA)	14	83	143
Monitoring and maintenance costs (IDP)	21	123	212
License costs for RPA	222	517	591
License costs for IDP	82	191	219
Total costs of automation (sum of all software and services costs listed above)	1,049	1,448	1,421
Risk-adjusted PVs for costs	1,021	1,256	1,091
Savings realized from Smart RPA	921	4,929	8,623
Risk-adjusted PVs of savings	753	3,666	5,831
Risk-adjusted ROI for a 3-year term	**= sum of PVs of (savings-costs) divided by sum of PVs of costs**		= **~200 to 250%**

1 Deployment for both RPA and IDP starts from second quarter and is spread equally over eight quarters
Source: Everest Group (2018)

Payback period analysis for Smart RPA in insurance-specific processes

Time-to-value realization



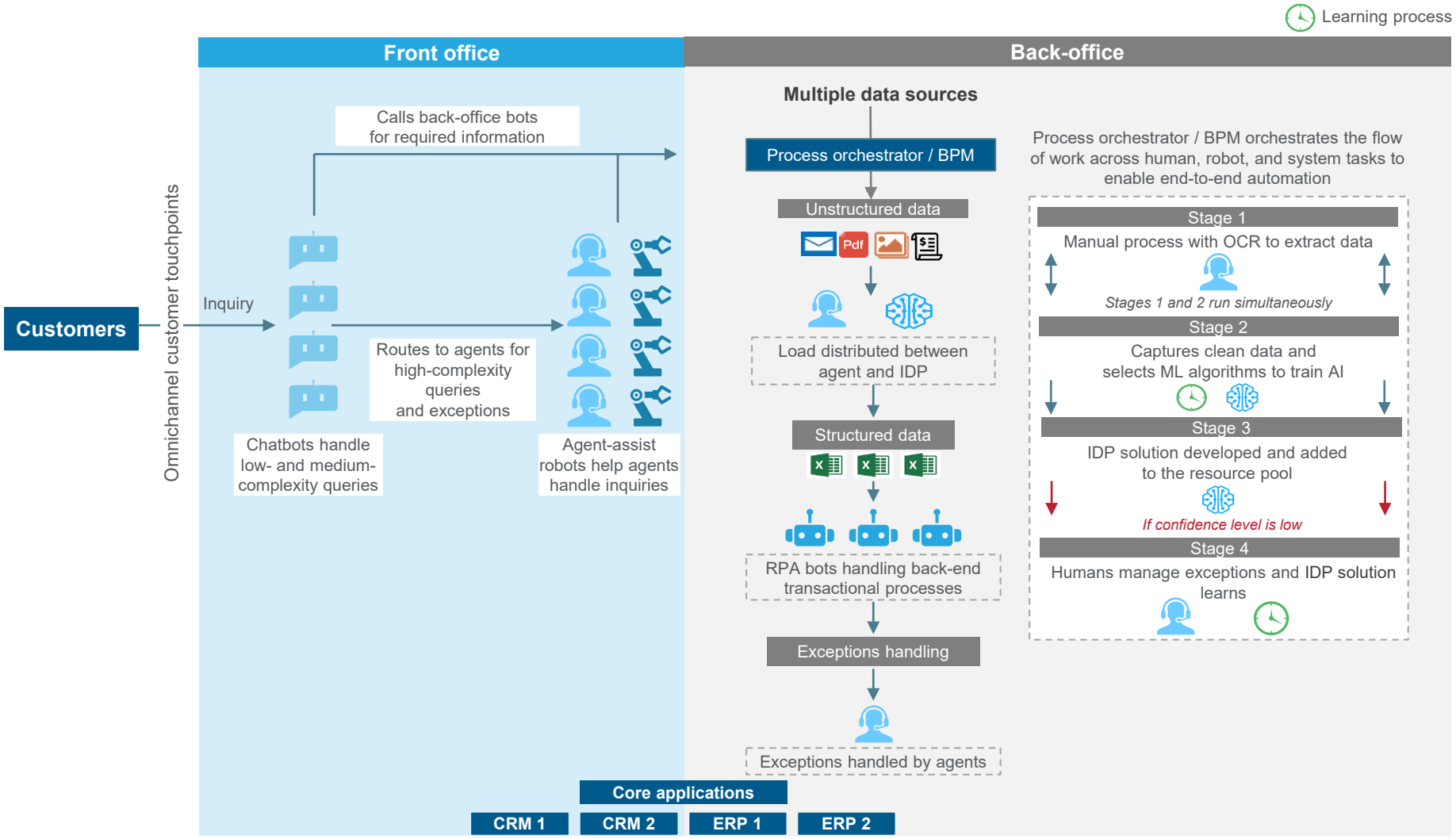
- The payback period depends on two major factors
  - Speed of deployments of robots and achievable scalability
  - Transition period for realizing the full potential of automation benefits
- The benefit realization for IDP is spread across a longer time period than for RPA because an IDP robot has a learning period before it can deliver substantial savings.
- For this analysis, the benefit realization for the RPA batch deployed in every quarter is assumed to be 25% in the same quarter and 100% in the next one; for IDP deployment it is assumed to increase from 20% in the following quarter to 100% over a period of 5 quarters

Source: Everest Group (2018)

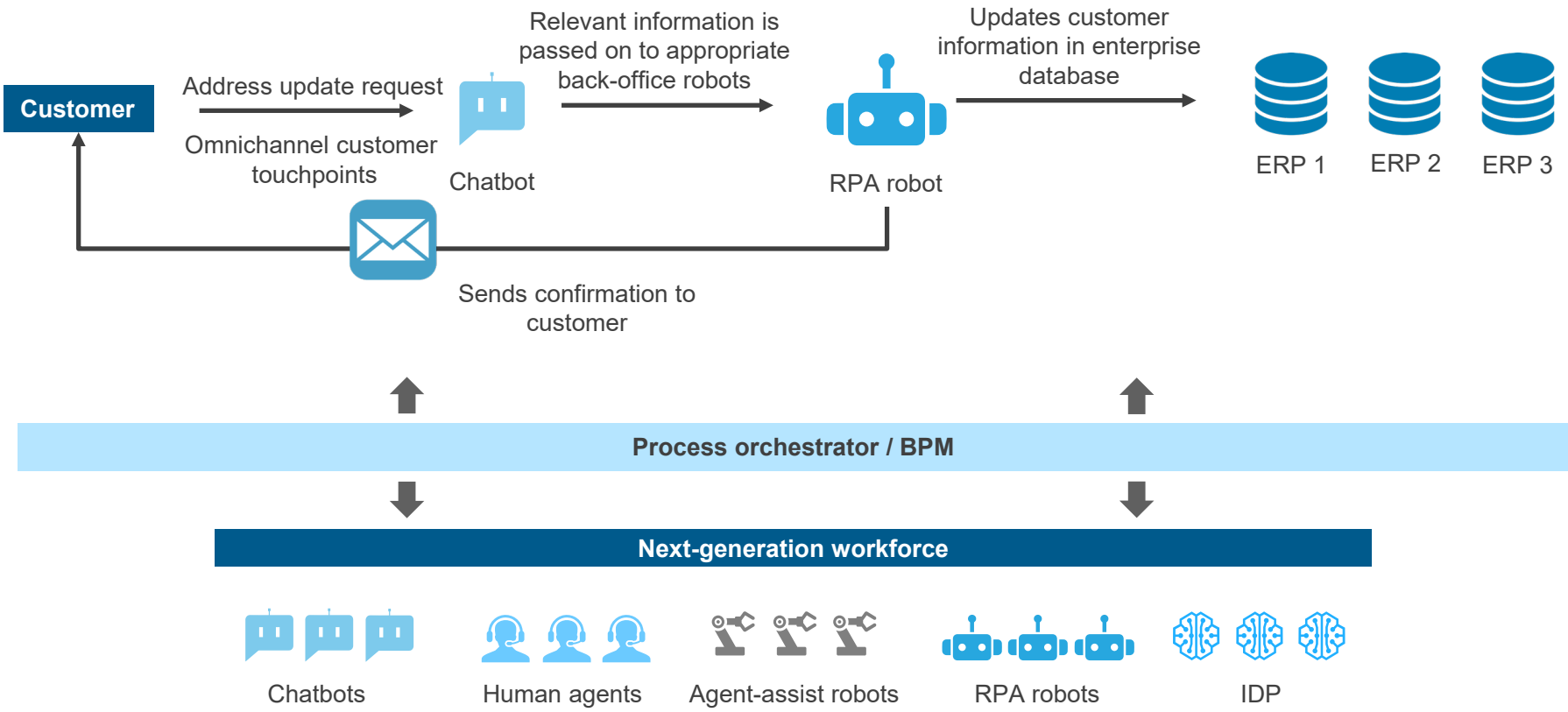
Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- **Appendix**
  - **Appendix A: Digital workforce and the office of the future**
  - Appendix B: Enterprises' environmental determinants
  - Appendix C: Variations in execution steps
  - Appendix C: Variations in execution steps
  - Appendix D: Establishing a Smart RPA CoE
  - Appendix E: Glossary of key terms

Smart RPA enables digital transformation of front- and back-office operations

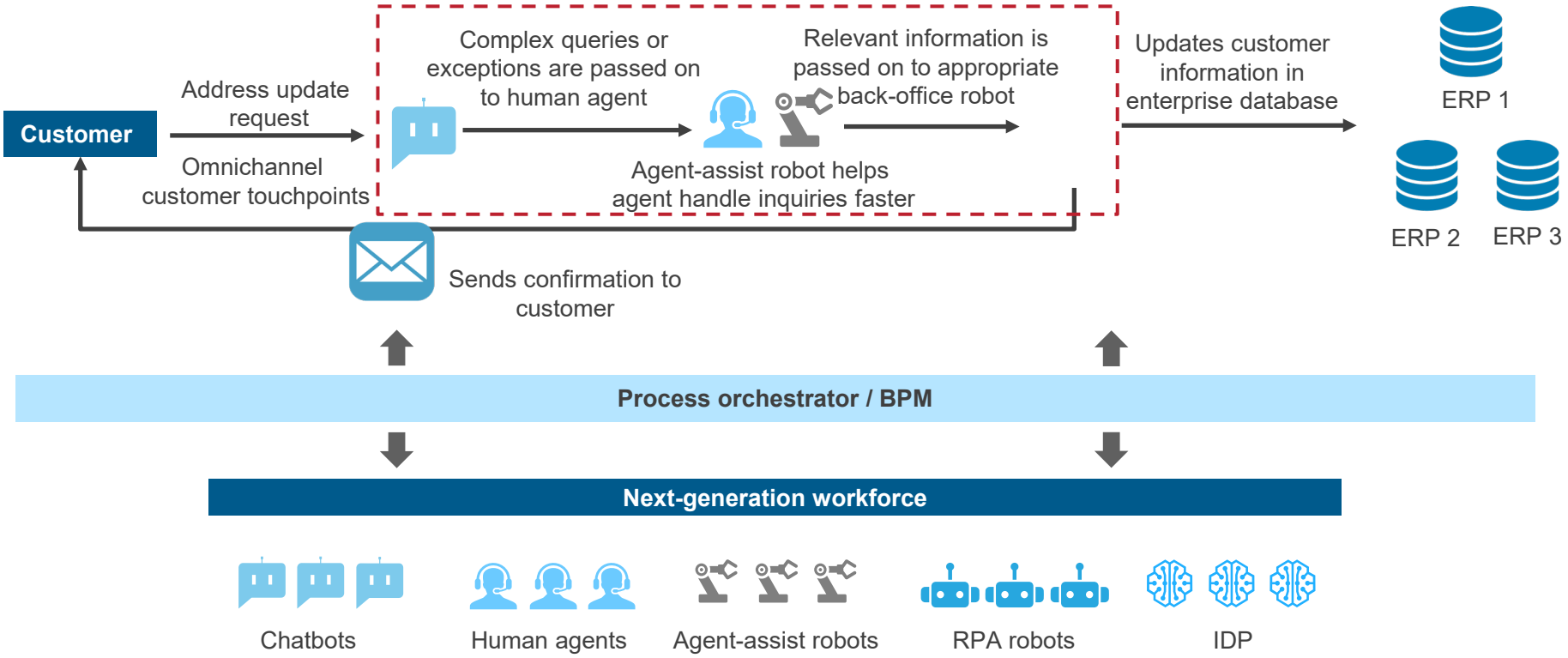


Chatbots address low and medium-complexity customer queries and are integrated with RPA robots to extract/enter relevant information based on customer inquiries



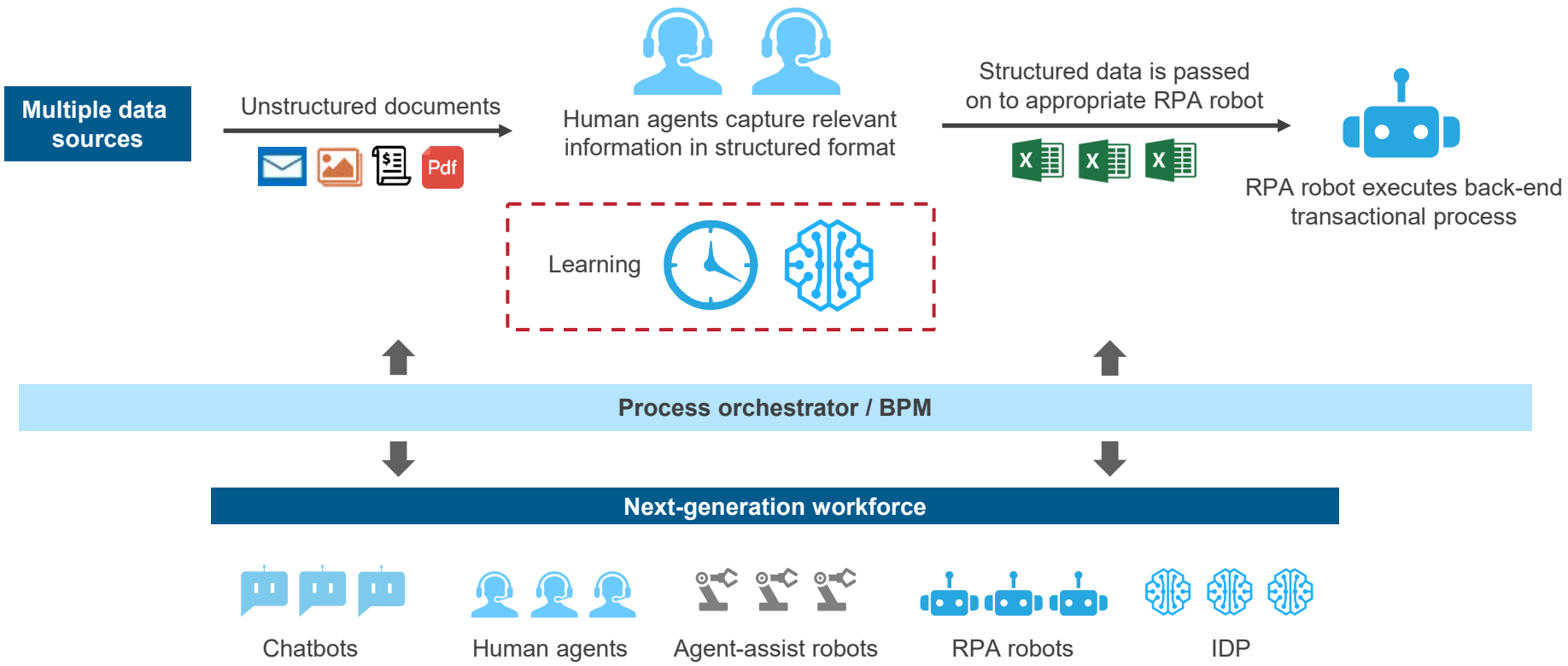
Process orchestrator / BPM capability integrated within a Smart RPA platform governs the process flow and routes work to the best worker (human or robot) based on the nature, type, and criticality of the task for optimal delegation, process continuity, and end-to-end analytics.

Complex queries and exceptions are routed to human agents; agent-assist robots help them to solve queries quickly and accurately



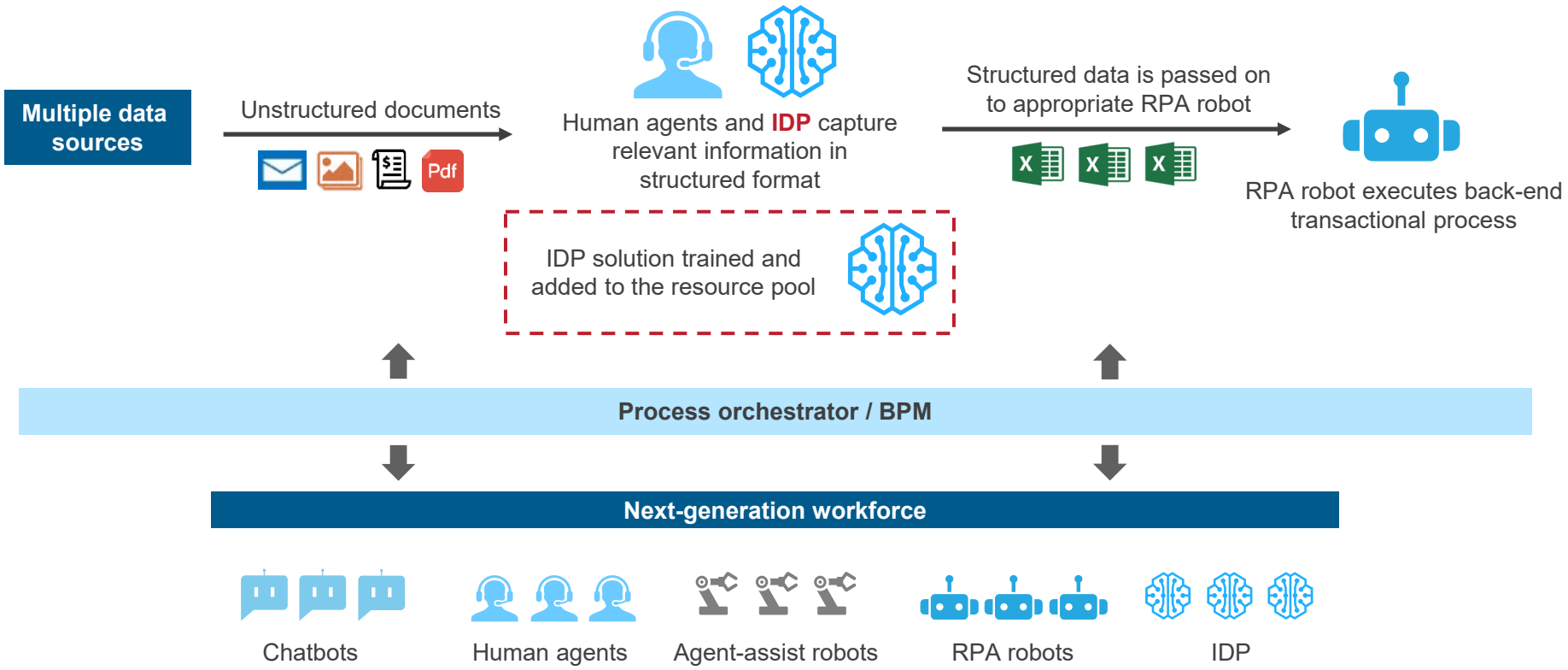
Process orchestrator / BPM capability integrated within a Smart RPA platform governs the process flow and routes work to the best worker (human or robot) based on the nature, type, and criticality of the task for optimal delegation, process continuity, and end-to-end analytics.

Unstructured documents are processed by human agents and IDP solution is trained by observing human actions



Process orchestrator / BPM capability integrated within a Smart RPA platform governs the process flow and routes work to the best worker (human or robot) based on the nature, type, and criticality of the task for optimal delegation, process continuity, and end-to-end analytics.

Once training is complete, the workload is distributed between agents and IDP solution, based on the predicted accuracy rates or confidence level of robots



When confidence level of robots is low – as is with exceptions – the task is routed to the exception management team. IDP provides capability to observe how humans handle these exceptions and improve their accuracy accordingly. If the confidence level rises above a given threshold, and there are no exceptions, the process is completed and structured data is created.

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix
  - Appendix A: Digital workforce and the office of the future
  - **Appendix B: Enterprises' environmental determinants**
  - Appendix C: Variations in execution steps
  - Appendix D: Establishing a Smart RPA CoE
  - Appendix E: Glossary of key terms

Environmental determinants

1. Organization structure

- Highly centralized, with little independent decision-making
- Partially centralized with portions of decision-making federated to BUs
- Largely federated decision-making – BUs have large degree of freedom to make their own decisions

2. People centricity

- Highly people-centric organization – overall culture is people-driven rather than efficiency-driven
- Middle-ground organization with focus on people as assets with efficiency also playing a role
- Efficiency- and/or technology-driven organization

3. Sensitivity to change

- Very sensitive to change – even the slightest change can disrupt the organizational workforce
- Willing to accept smaller incremental changes but not large systemic changes
- Progressive mindset to change – workforce is receptive and accepting of even transformative change

Environmental determinants

4. Technology savviness

- Highly technology savvy – IT organization plays the role of innovation leader
- Moderate level of technology savviness – IT supports most initiatives and spearheads a few
- Low level of technology savviness – IT plays a supporting role in innovation

5. Initiating stakeholder(s)

- Operations-driven initiatives – driven by operations analysts trying to make their jobs easier
- BU-driven initiative with IT support
- Centrally-driven, typically by the C-suite or one level below with all BUs and IT falling in line

6. Risk appetite

- Low risk appetite – need to have multiple layers of checks and balances for any initiative
- Medium risk appetite – willing to take risks in select scenarios, especially when dictated by the market
- High risk appetite – willing to take risks in the hope of market leadership and payoff

Environmental determinants

7. Level of control over operations

- High level of direct control over all operations – low level of outsourcing
- Medium level of direct control over operations – non-core operations may be outsourced
- Low level of direct control – transactional parts of even core operations may be outsourced

8. Existing partnerships

- No existing automation partnerships
- Existing partnerships with organizations that also play in the automation space

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix
  - Appendix A: Digital workforce and the office of the future
  - Appendix B: Enterprises' environmental determinants
  - **Appendix C: Variations in execution steps**
  - Appendix D: Establishing a Smart RPA CoE
  - Appendix E: Glossary of key terms

Variance in execution path steps for organizations by environmental determinants (1/5)

Phase 1

#	Steps	Determinants	Path options
1	Prioritize subprocesses using the prioritization framework	• Sensitivity to change • Risk appetite • Current outcome and capability	• Implement one process at a time • Implement logical groups of processes sequentially • Big bang implementation
2	Plan implementation timelines, governance, and skill development for automation and reskilling for affected employees	NA	NA
3a	Obtain alignment with IT for specific initiative	• Organization structure • Technology savviness • Initiating stakeholder(s)	• IT minimally involved • IT co-creates • IT takes the lead
3b	Obtain team buy-in, particularly impacted FTEs	• Sensitivity to change • People centricity	• Open communication with team – affected members and those unaffected • Selective communication to impacted employees • Minimal communication
4	Select appropriate vendor tool based on capabilities and automation need	• Existing partnerships • Risk appetite	• Leverage existing relationships • Evaluate other vendors while leveraging existing relationships • Evaluate the entire vendor landscape with fresh eyes

Variance in execution path steps for organizations by environmental determinants (2/5)

Phase 2

#	Steps	Determinants	Path options
5	Obtain management buy-in and budget	• Organization structure • Initiating stakeholder(s)	• Buy-in and budget at team-lead level • Buy-in and budget at BU level • Buy-in and budget central
6a	Initiate continuous communication as part of change management	• Sensitivity to change • People centricity	• Low to no communication • Medium frequency of communication • Frequent communication
6b	Initiate development of talent for automation development and maintenance	• Control over operations • Technology savviness	• Develop talent in-house • Use a combination of in-house and vendor/consulting talent • Use mostly external talent and/or outsource/partner
6c	Initiate governance mechanism	• Risk appetite • Control over operations	• Minimal, ad hoc governance • Standard set of tracking for metrics • Comprehensive governance, including dashboards for measuring performance, speed and accuracy
6d	Initiate reskilling for affected employees	• People centricity	• No reskilling/upskilling – impacted FTEs may be downsized or reassigned • Upskilling only for high-performing employees, rest reassigned/downsized • Reskilling/upskilling of all employees (all retained)

Variance in execution path steps for organizations by environmental determinants (3/5)

Phase 2

#	Steps	Determinants	Path options
7	Develop pilot for the prioritized process	NA	NA
8	Cut to production with human supervision until automation achieves desired efficiency	• Risk appetite	• Always employ a human in the loop • Employ a human in the loop for verification for highly sensitive processes only • Allow STP where possible, with only exceptions requiring human intervention
9	Continuously monitor and report on metrics/KPIs	NA	NA
10	Repeat journey with next process in the priority list	NA	NA

Variance in execution path steps for organizations by environmental determinants (4/5)

Phase 3

#	Steps	Determinants	Path options
11	Build up CoE structure	• Organization structure	• Centralized operations • Hub and spoke model • Decentralized CoE operations
12	Evaluate balance of automation skill sets	• Control over operations • Technology savviness	• Develop talent in-house • Use a combination of in-house and vendor/consulting talent • Use mostly external talent and/or outsource/partner
13	Set up a team to evaluate opportunities	• Organization structure	• Centrally nominated and controlled • Centrally controlled with nominations from business units • Truly cross functional, nominally centralized
14a	Scale up and run operations	NA	NA
14b	Continuously monitor and report on metrics/KPIs	NA	NA

Variance in execution path steps for organizations by environmental determinants (5/5)

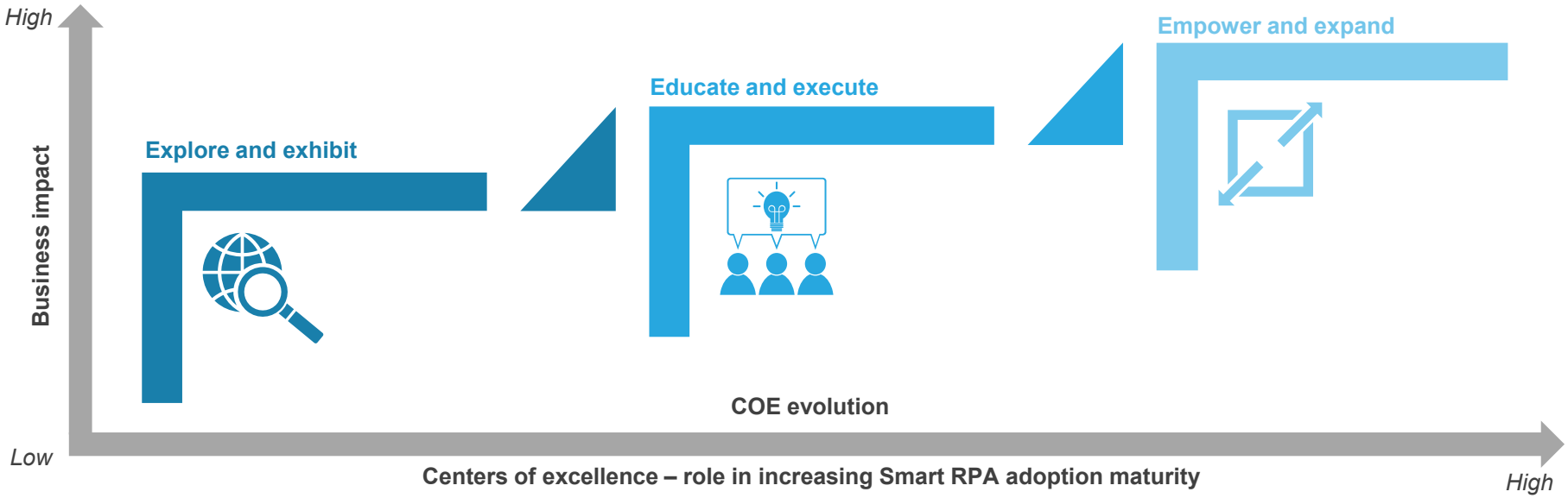
Phase 4

#	Steps	Determinants	Path options
15a	Put a strategic model in place (for example chargeback mechanisms and RPA CoE)	NA	NA
15b	Templatize opportunity evaluation and processing	NA	NA
15c	Create development standards and reusable code libraries	NA	NA
16	Enable various exposure mechanisms – road shows, hackathons, project of the year, and newsletters to create awareness	NA	NA
17	Scale up further	NA	NA
18	Continuously monitor and report on metrics/KPIs	NA	NA

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix
  - Appendix A: Digital workforce and the office of the future
  - Appendix B: Enterprises' environmental determinants
  - Appendix C: Variations in execution steps
  - **Appendix D: Establishing a Smart RPA CoE**
  - Appendix E: Glossary of key terms

The CoE evolves to support enterprises at various phases of their Smart RPA journeys



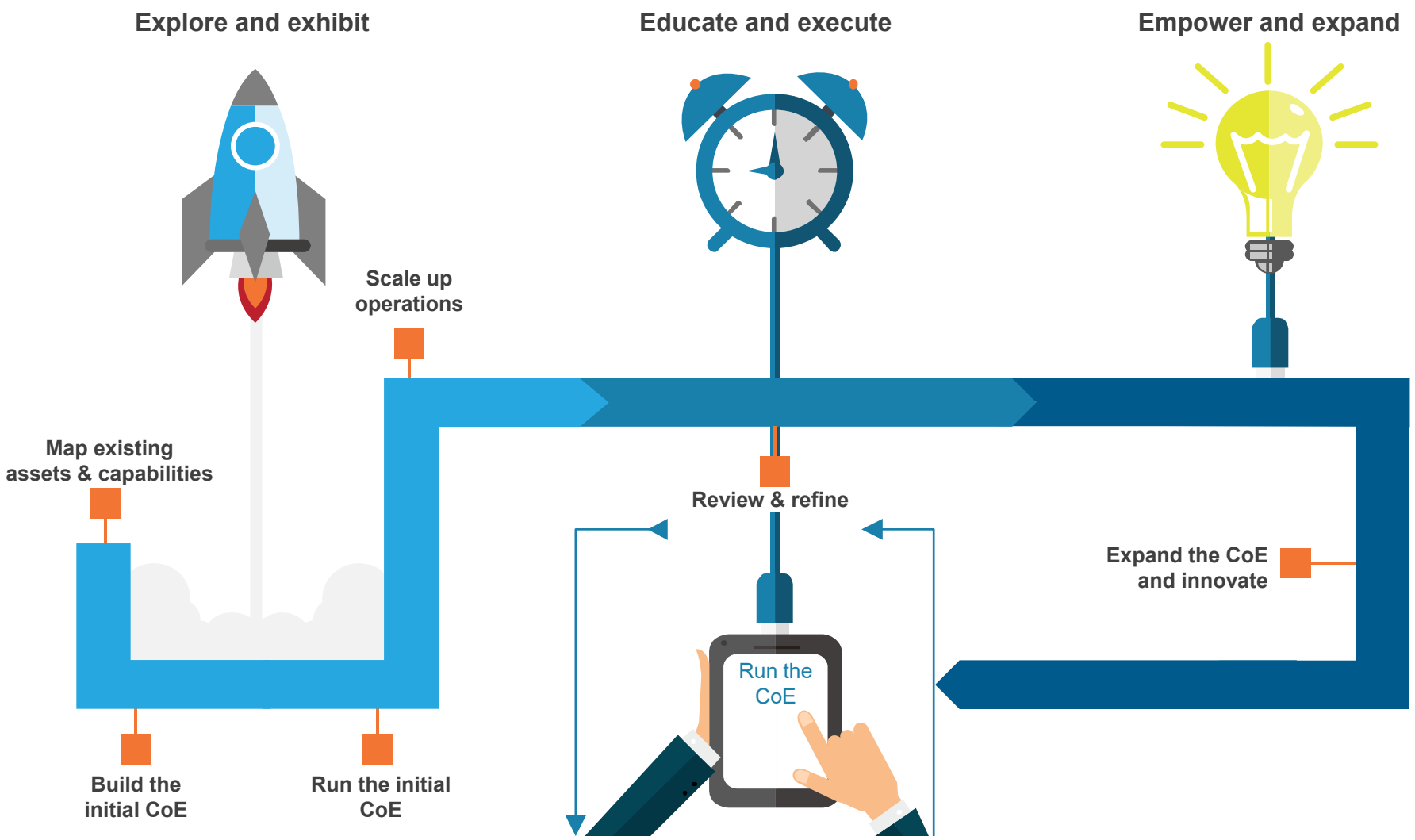
Focus areas

- Form leadership team, and outline roles, responsibilities, and structures for collaboration with IT and other corporate functions
- Evaluate IT and data management requirements for Smart RPA
- Augment skills and technology with third-party vendor support
- Develop POC, secure buy in, pilot, and implement solutions
- Create awareness – showcase the benefits to the larger enterprise

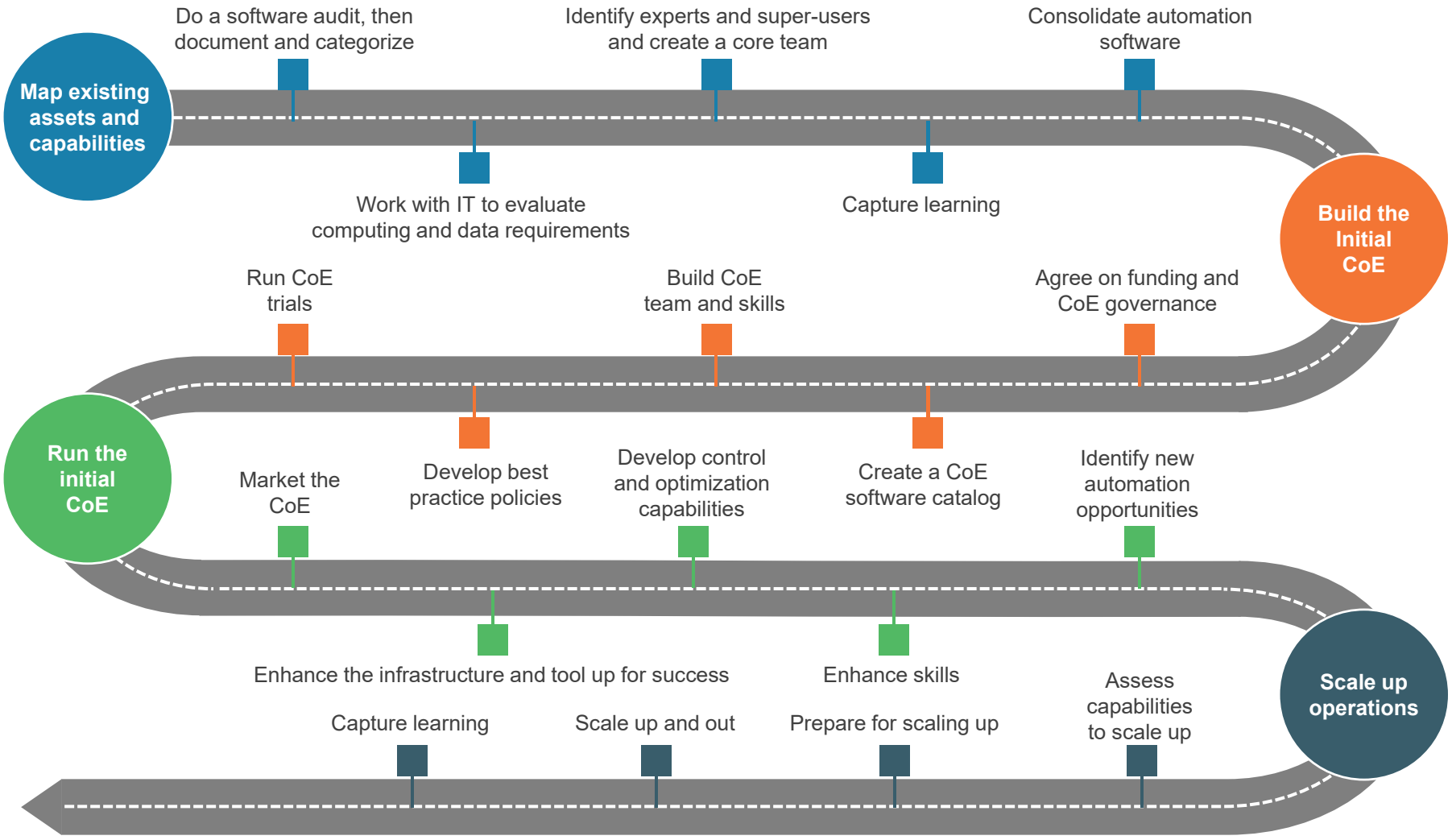
- Develop computing power, infrastructure, and data management capabilities to enable Smart RPA
- Develop in-house Smart RPA experts and optimize vendor leverage
- Educate business owners on Smart RPA implementation
- Assist businesses in executing Smart RPA solutions
- Institutionalize governance mechanisms

- Develop structured frameworks that enable business units to execute Smart RPA on their own with centralized governance and support from the CoE and IT
- Expand Smart RPA initiatives across different locations, and scale up solutions
- Continuously identifying new opportunities for automation and innovation

Building and expanding an automation CoE is a closed loop process

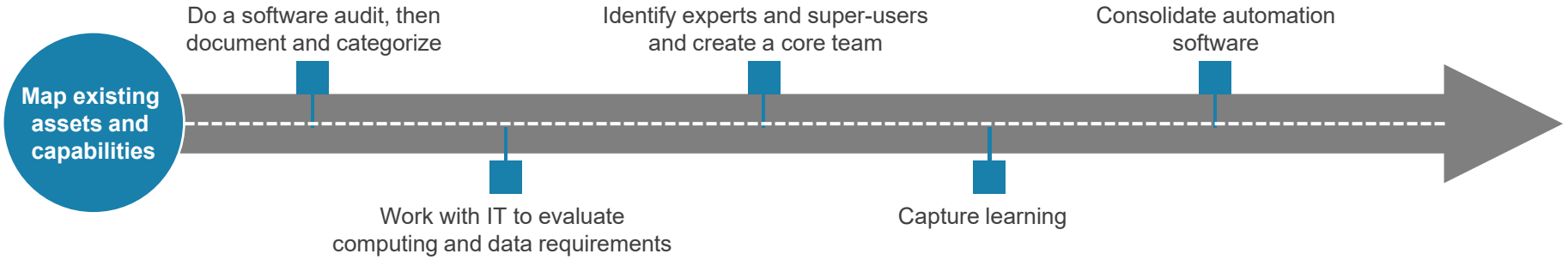


Starting up an automation CoE: A roadmap



Map existing automation assets and capabilities

Taking stock of existing computing and automation capabilities accelerates the set-up phase of the CoE

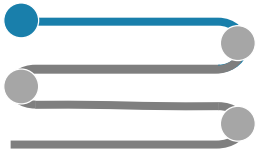


Rationale behind these steps

- It is likely that the organization has developed and deployed multiple automation tools and even dabbled with AI, but these efforts could be unknown to IT. These projects must be identified and consolidated to create a manageable catalog of solutions that the CoE will utilize and support
- Smart RPA will have AI components that require extra computing power and infrastructure and robust data management. An architecture team has to assess and address these requirements. Options for deployment on the cloud should always be considered within the organization's IT, security, and risk policies. Organizations should not be put off by these requirements. Many start with pure RPA before moving on to Smart RPA and, in the process, learn a lot about automation computing requirements and optimization of run time environments. Capabilities for AI will take them further into computing capacity and infrastructure extensions and optimization
- It is also important to take advantage of existing expertise and nurture and grow it to accelerate the CoE set up and development
- If there are existing automation capabilities and competencies, the organization should evaluate the pros and cons of using them, including any organizational dependencies and risks, instead of investing in new solutions
- It is important to consolidate the automation software and decommission those that are least useful so they do not become a cost and maintenance burden to the CoE and IT

Map existing automation assets and capabilities

Create the computing infrastructure for Smart RPA and consolidate existing solutions to optimize automation capabilities



Typical activities within each step

Do a software audit, document and categorize

- Scope: across division or organization; this may include automation of business processes and IT depending on the scope of the CoE
- Identify the software tools and types of processes automated
- Document findings and categorize the tools according to use cases

Work with IT to evaluate computing and data requirements

- It is important for the organization to assess existing IT infrastructure and computing capacity against Smart RPA requirements and address any gaps; this could be done by doing small trials and learning from them
- Robust data management is another key requirement for training AI and automating data- and knowledge-driven processes
- Regulatory and risk policies must also be taken into account and compliance built into deployments

Identify experts, architects and super-users and set up teams

- In collaboration with IT, create a team of infrastructure architecture and data scientists to design corporate AI capabilities
- Identify who owns, uses, and maintains existing automation software tools
- Create a database of tool experts and super-users within business units

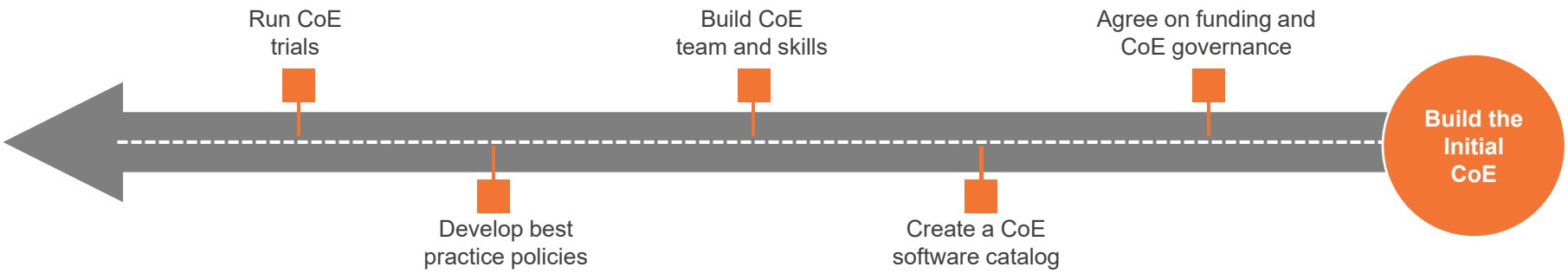
Capture learning

- Interview experts, users, and IT support teams to capture lessons learned and best practices from existing or past projects

Consolidate software

- Work with all stakeholders to identify and agree on a list of deployed software tools to be supported by the CoE
- Identify installed software tools to be evaluated for decommissioning over time

Building an initial CoE for a POC enables organizations to gain experience without over-committing to the concept



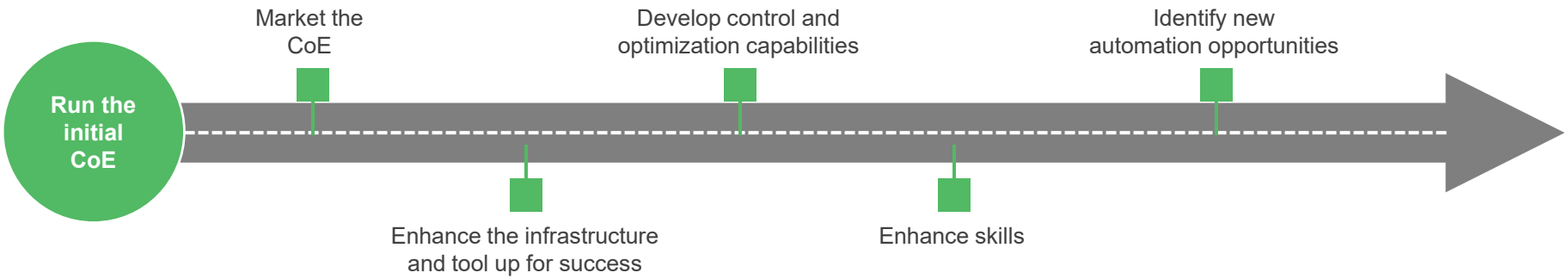
- It is important for the CoE to set up collaboration structures to work with IT, corporate compliance and risk management, and the data management function, or create such a functions if they do not exist
- The CoE requires funding. Common funding models include:
  - Option 1: Technology costs are divided equally among all departments; projects are charged separately
  - Option 2: User departments pay for automation licenses and IT; CoE staffing and project costs come from central funding
- Existing automation projects and skills offer a head start in creating the knowledge base for a CoE
  - Capture lessons learned and best practices from existing projects as the basis of a new formal best practice framework and policies for the CoE. These lessons should include AI-enablement and deployment, how to select processes for automation, requirements capture, business case evaluation, tools selection, automation development, testing, deployment, and maintenance
  - Identify skilled personnel and involve them in the CoE set up to help accelerate the learning phase of the CoE
  - Consider bringing in external consultants to speed skills development and transfer and augment or complement internal skills
  - Given the shortage of Smart RPA skills, organizations should look at sourcing skills from different geographic locations

Build the initial CoE: Bring together software tools and expertise, wrapped in a governance framework

Typical activities within each step

Run CoE trials	Develop best practice policies	Build CoE team and skills	Work with IT on a Smart RPA infrastructure and software catalog	Agree on funding and CoE governance
• Select and automate two to three processes as POCs • Test computing power and infrastructure and address issues or additional requirements • Test governance and best practice frameworks • Capture lessons learned and use to refine best practice and governance	• Use existing and newly-developed knowledge and skills to define best practice procedures • Work with skilled consultants or vendors' professional services teams to develop best practice and standards fast • Start training staff in CoE procedures and methodologies	• Set up collaboration structures with IT, data management, and risk teams • Build the core CoE team, staffed where possible with identified existing experts who bring a mix of business process, automation, and IT skills • Start to backfill any resulting gaps in operational skills in business units • Start bringing in external expertise and training staff in technologies where there are gaps	• Address any identified gaps or issues in computing infrastructure, risk and data management for Smart RPA • Evaluate and shortlist best-of-breed automation software tools in the market that are not currently deployed within the organization • Add to the existing and consolidated software catalog • Prioritize the tools that the CoE will specialize in • Agree on application support and maintenance procedures with IT	• Agree on CoE funding with all stakeholders • Define CoE scope and responsibilities • Agree on governance and user policies

Run the initial CoE: From the beginning, a CoE has to be marketed and tooled up for success



Rationale behind the steps

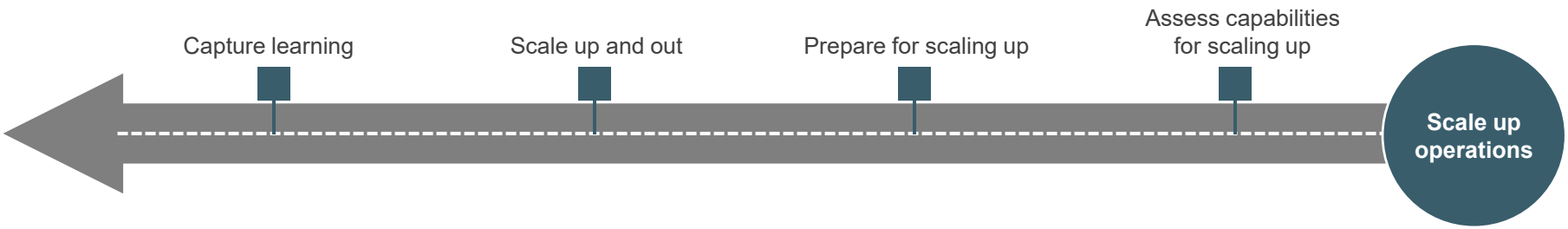
- Success at the POC stage will help boost demand for the CoE's services
  - Ensure data capture to quantitatively demonstrate the benefits that have been realized
  - Use the data to market the CoE to business units
- You will need to enhance the infrastructure and get more software tools, such as collaboration and project management applications, to run the CoE and automations efficiently. Build your capabilities to manage:
  - Customer demand and workloads
  - Automation performance monitoring and controls
- Demand for CoE services is sure to go up; you will need to be able to prioritize what you take on
  - Work with stakeholders to identify which processes, when automated, would relieve the organization of its biggest pain points or are of strategic importance
  - Prioritize the CoE's work accordingly

Run the initial CoE: Start taking on new requirements from the business while communicating the benefits realized by the POCs

Typical activities within each step

Market the CoE	Enhance the infrastructure and tool up for success	Develop control and optimize capabilities	Enhance skills	Identify new automation opportunities
• Ensure open communication with the rest of the organization and stakeholders • Highlight successes and, in particular, the ROI from the POCs to boost demand	• Build on the exiting computing infrastructure to address growing demand for automation within corporate regulatory and risk frameworks and policies • Invest in demand, asset, and project management tools and skills • Start taking on and prioritizing projects	• Depending on the scope of the CoE, you may need to build a control tower to manage the runtime robot environment in collaboration with the operations team • Work with IT to monitor and optimize the automation infrastructure • Work with IT on system upgrade plans so that robots can be updated when underlying business systems change	• Maintain skill levels by continuous skills development – Trial new automation software tools – Trial new approaches to automation, for example semi-automated processes vs. fully-automated – Trial automations to run in conjunction with other software such as workflow	• Work with the business to identify new opportunities for automation • Think beyond the immediate functionality to see how automation could help the organization innovate in service delivery to boost revenue and profits • Work with any existing innovation councils in the organization to include automation as an innovation enabler

Scaling up an automation CoE: Scale multiplies the benefits of automation and the scaling up is key to it



Rationale behind the steps

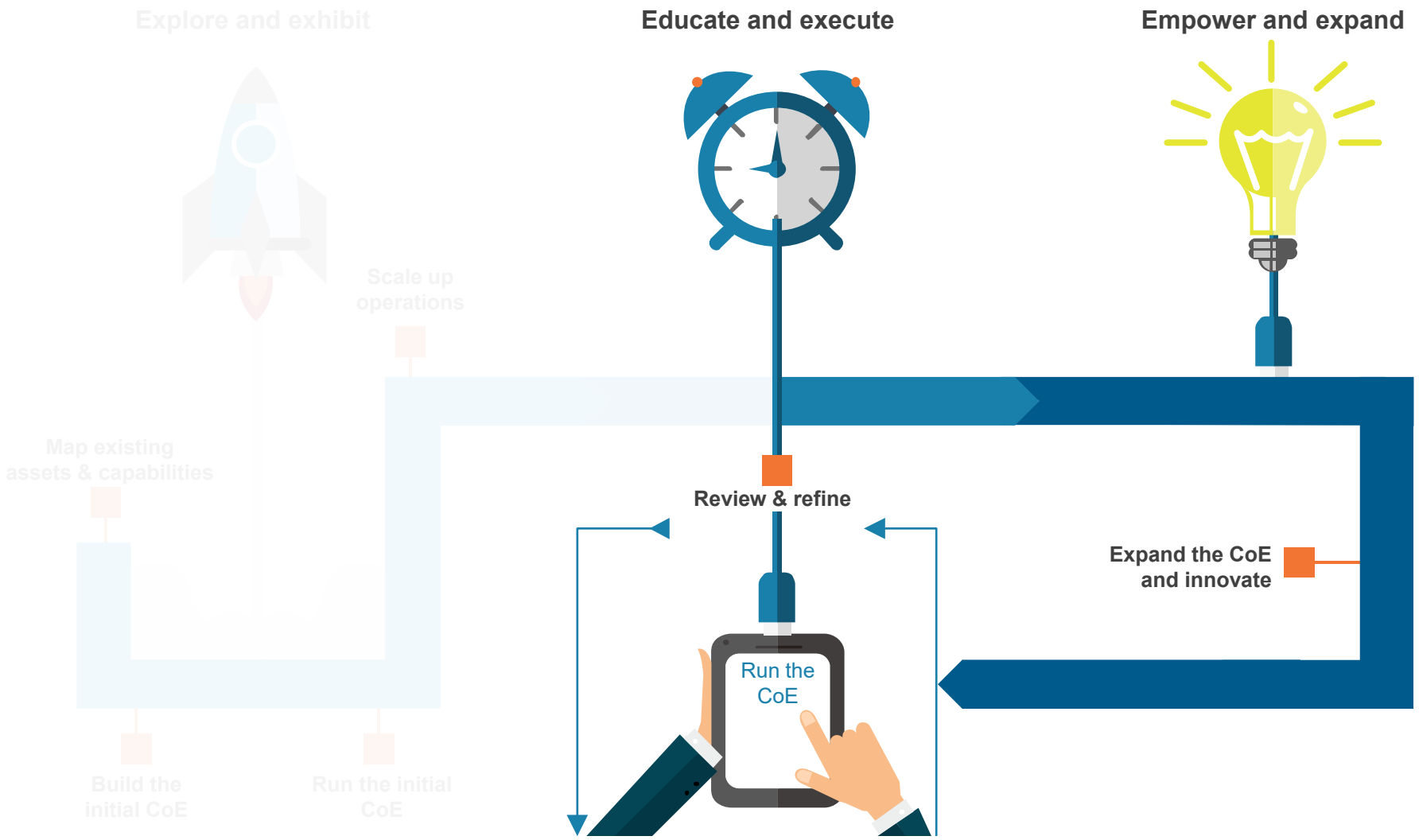
- The automation infrastructure, its configuration, and the degree of optimization of the virtualized run time environment for Smart RPA will make a difference to the program's performance
- It is, therefore, important that you expand and optimize the environment to scale up
- Organizations that have successfully scaled up have done so by
  - Addressing infrastructure needs of Smart RPA
  - Automating the same processes in another department, function, or geography
  - Increasing the number of robots to automate more of the same types of transactions
  - Trialed new automations for larger volume transactions after smaller trials
- The organization will need enhanced automation management and controls to manage larger deployments
  - Address this need through third-party control and monitoring software or develop your own approach to an aggregated view of the automated estate
- As the scale of automation within the organization increases, the CoE should review its software licensing cost and evaluate opportunities for transaction or on-demand-based pricing

Scaling up operations: Assess capacity and resilience of infrastructure and enhance skills before scaling up

Typical activities within each step

Capture learning	Scale up and out	Prepare for scaling up	Assess capabilities to scale up
• Capture and document learning • Invest in knowledge sharing, document management, and collaboration tools	• Increase the running times and capacity for existing automated processes to do more transactions/tasks • Deploy automations of common processes in other departments, functions, or geographies • Automate processes with a higher volume of transactions • Monitor performance of automations, exception handling, quality, security, and resilience • Review software licenses and evaluate other options such as transaction pricing	• Continue to boost computing and infrastructure capabilities • Keep up with regulatory or corporate risk policy changes and their impact on Smart RPA deployments • Work with other departments or geographies to identify opportunities for reuse of existing automations • Identify resources in those departments to prepare them for automation deployment • Document requirements and roll out project management • Train all the relevant personnel for new deployments	• Assess infrastructure and configuration resilience to increase automated transactions volume • Assess automation controls and exception handling procedures for increasing scale • Build capacity for scale

Running and expanding an automation CoE is a closed loop process



Review and refine the CoE: Monitor and review the CoE's performance as part of a closed loop process

Running a CoE should be a closed-loop process

- Collect and monitor performance data, such as key performance indicators and user feedback
- Review IT infrastructure and address issues and gaps
- Address the impact of changes in regulatory or corporate risk policies
- Review automated operations and feed the findings into the continuous improvement cycle

Review and refine the CoE: Leverage benchmarking to feed data into the review and refine processes

Review

- Collate performance data on the scaling up as well as on the automations
- Monitor processing times to identify any IT-related issues
- Evaluate and address requirements resulting from any regulatory and risk policy changes
- Create user groups for quarterly meetings for feedback, exchange of information, and new requirements
- Compile feedback from CoE customers and staff to plan improvements; staff feedback is important to identify issues caused by others such as users and IT

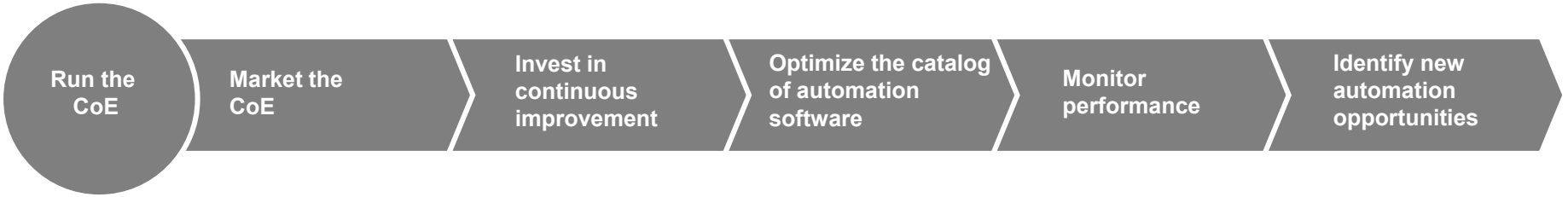
Refine

- Analyze performance data and all feedback for actionable insights
- Use the insights to plan enhancements to the infrastructure, the CoE's services, and the automations
- Address any issues that are caused
  - CoE customers – such as poor requirements specifications
  - IT – such as poor tech support
- Weave service enhancements into the planned expansion of the service
- Refine the approach and methodology based on the collated feedback
- Update the CoE's performance metrics, SLAs, and KPIs

Benchmark

- Always capture "as is" service data to use as a baseline to measure improvements over time

Run the CoE: Use lessons learned from running the initial CoE to embed best practices in the full-scale run environment



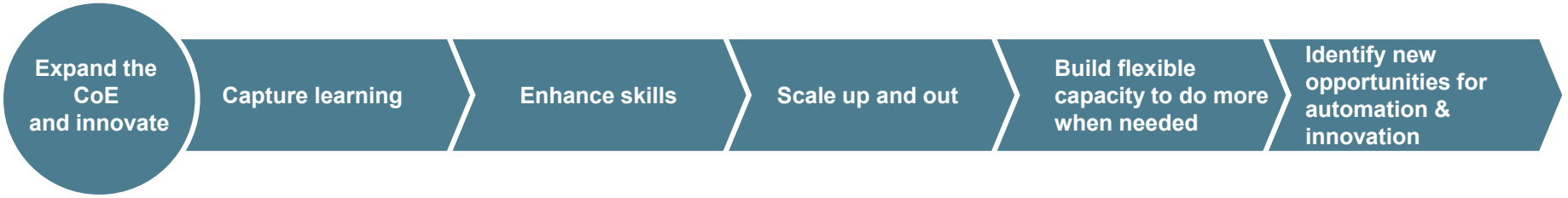
Rationale behind the steps

- Activities that were part of the running of the initial CoE get embedded into the full scale version, enhanced with lessons learned and best practices
  - The activities include CoE marketing, continuous improvement, and reporting and monitoring
  - The closed loop form of reviewing and refining should provide insights and intelligence as well as help highlight potential enhancements and continuous improvement
- As the initial CoE matures and the skill base becomes deeper and wider, it should become easier to spot new opportunities for automation as well as new approaches to it and service delivery innovation

Run the CoE: Continuous monitoring and improvements are core parts of the steady state of running operations

Market the CoE	Invest in continuous improvement	Optimize the catalog of automation software	Monitor performance	Identify new automation opportunities
• Ensure open communication with the rest of the organization and stakeholders • Highlight successes and, in particular, ROI from completed projects • Take advantage of ROI data to support increases in funding and expansion requirements	• Invest in robot test automation • Automate other CoE processes such as work initiation and requirements gathering • Update skills through regular training • Keep up with market developments to stay abreast of advances in Smart RPA technology to determine if new investment in technology is needed	• Regularly review usage of software • Consolidate the catalog to remove unwanted software to reduce burden of skills and software maintenance costs	• Continue to collect performance and operational data and feed it into the ongoing review process • Monitor computing power and speed of operations and work with IT to address any issues and requirements • Monitor adherence to risk and compliance policies	• Work with the business to identify new opportunities for automation • Think beyond immediate functionality to see how automation could help the organization innovate in service delivery to boost revenue and profits

Expand the CoE: Changing perspectives to look at processes through the lens of automation can lead to innovation



Rational behind the steps

- As the level of automation skills in the organization increases, reviews of operations can be done increasingly through the lens of automation: how can the processes be modernized, digitized, and automated? Using this lens could lead to new ways of delivering services and innovation in business
- Flexible scalability using cloud or utility offerings should help the CoE build scale as and when it is needed to deal with demand and capacity fluctuations
- The CoE should try to automate as many of its own processes as it can; doing so will enhance its flexibility and expertise
- The CoE should keep up with developments in automation technologies and deploy more advanced products if the business could benefit from them

Expand the CoE: Enhancing skills and capturing lessons learned are essential parts of keeping the CoE relevant

Capture learning	Enhance skills	Scale up and out	Build flexible capacity to do more when needed	Identify new opportunities for automation and innovation
• Capture and document learning • Build knowledge sharing, document management, and collaboration tools	• Trial new automation software tools such as new cognitive/machine learning software • Trial new approaches to automation such as semi-automated processes vs. fully-automated ones • Trial automations run in conjunction with other software such as workflow and other process orchestration software	• Automate more processes • Deploy automations of common processes in other departments, functions, or geographies • Automate processes with higher volumes of transactions • Monitor performance of automations, exception handling, quality, security, and resilience	• Building flexible capacity will require additional infrastructure, support and maintenance, and disaster recovery • Additional staff may also be needed depending on the degree of automation within the CoE and IT functions	• Consider the potential for automation whenever business needs are assessed – This approach could help the organization identify opportunities for process innovation – Evaluate existing processes for automation – Set up or work with existing corporate innovation councils to identify new opportunities for automation

Key content

- Introduction to Smart RPA
- Enterprise Smart RPA journey
- Accelerating the Smart RPA journey
- Enterprise case studies
- Pinnacle Enterprises™ Smart RPA maturity model
- Developing the business case for Smart RPA
- Appendix
  - Appendix A: Digital workforce and the office of the future
  - Appendix B: Enterprises' environmental determinants
  - Appendix C: Variations in execution steps
  - Appendix D: Establishing a Smart RPA CoE
  - **Appendix E: Glossary of key terms**

Glossary of key terms used in this report (page 1 of 2)

Term	Definition
Artificial intelligence	Artificial intelligence is referred as the ability of the system to use its cognitive intelligence to learn how to interpret unstructured content, use relationships and patterns to build a fuzzy structure around it, and then leverage this structure to respond in a similar form as the input itself
BPM tools	Business Process Management tools are process optimization solutions with process design, execution (through workflows and orchestration of different BPS technology systems), and monitoring (through analytics) capabilities
BPO	Business Process Outsourcing refers to the purchase of one or more processes or functions from a company in the business of providing such services at large or as a third-party provider
Buyer	The company/entity that purchases outsourcing services from a provider of such services
Cognitive automation	Cognitive automation refers to the ability of a system to learn how to interpret unstructured content, such as natural language, and use analytical capability to derive and present inferences in a pre-defined/structured fashion – for example, a system that classifies a person's mood into a pre-defined bucket based on his/her tone and language
FTE-based pricing	Input-based pricing structure; priced per resource type with significant price differences between onshore and offshore (such as per onshore clerk and per offshore clerk)
FTEs	Full-time equivalent is a unit that indicates the workload of an employed person
GIC	Global In-house Center is a shared service or delivery center owned and run by a parent organization
Horizontal business processes	Horizontal business processes refer to those processes that are common across the various departments in an organization and are often not directly related to the key revenue-earning business. Examples include procurement, finance & accounting, and human resource management
NLP	Natural Language Processing is a cognitive intelligence-based methodology to interpret human languages
Offshoring	Transferring activities or ownership of a complete business process to a different country from the country (or countries) where the company receiving the services is located. This transfer is done primarily for the purpose of gaining access to a lower-cost labor market, but may also be done to gain access to additional skilled labor, to establish a business presence in a foreign country, etc. Companies may utilize offshoring either through an outsourcing arrangement with a third party or by establishing their own Global In-house Centers (GICs) in offshore locations, among other business structures
POC	Proof of Concept is a realization of a certain method or idea in order to demonstrate its feasibility or a demonstration in principle with the aim of verifying that some concept or theory has practical potential

Glossary of key terms used in this report (page 2 of 2)

Term	Definition
RDA	RDA of attended RPAs that are deployed on user desktops; these are triggered by users instead of being orchestrated from a central control tower
Semi-structured data	Semi-structured data is content that does not conform to a pre-defined structure but nonetheless contains tags / other markers to separate semantic elements and enforce hierarchies. In short, it has a self-describing structure. The placeholders of the content can be in varied sequences
Structured data	Structured data is content that conforms to the pre-defined structure of content in terms of tags to separate semantic elements and enforce hierarchies of records and fields. Moreover, the placeholders for the content have a pre-defined sequence
Transaction-based pricing	An output-based pricing structure priced per unit transaction with significant price differences between onshore and offshore
Unstructured data	Unstructured content refers to information that either does not have a pre-defined data model or is not organized in a pre-defined manner. Unstructured information is typically text-heavy, but may contain data such as dates, and numbers
Vertical-specific business processes	Vertical-specific business processes refer to those processes that are specific to a department within an organization and are often directly related to the key revenue-earning business. Examples include lending process in the banking industry and claims processing in the insurance industry

Everest Group®

From **insight** to ***action***.

About Everest Group

Everest Group is a consulting and research firm focused on strategic IT, business services, and sourcing. We are trusted advisors to senior executives of leading enterprises, providers, and investors. Our firm helps clients improve operational and financial performance through a hands-on process that supports them in making well-informed decisions that deliver high-impact results and achieve sustained value. Our insight and guidance empower clients to improve organizational efficiency, effectiveness, agility, and responsiveness. What sets Everest Group apart is the integration of deep sourcing knowledge, problem-solving skills and original research. Details and in-depth content are available at www.everestgrp.com.

Dallas (Headquarters)
info@everestgrp.com
+1-214-451-3000

Bangalore
india@everestgrp.com
+91 806-781-9999

Delhi
india@everestgrp.com
+91-124-496-1000

London
unitedkingdom@everestgrp.com
+44-207-129-1318

New York
info@everestgrp.com
+1-646-805-4000

Toronto
canada@everestgrp.com
+1-416-388-6765

Stay connected

Website

www.everestgrp.com

Social Media

@EverestGroup

@Everest Group

Blog

Sherpas In Blue Shirts

www.sherpasinblueshirts.com