Deloitte.

Digital Controllership

November 12, 2019

New technologies have driven the evolution of Finance for decades, but the pace of change continues to increase

Foresight

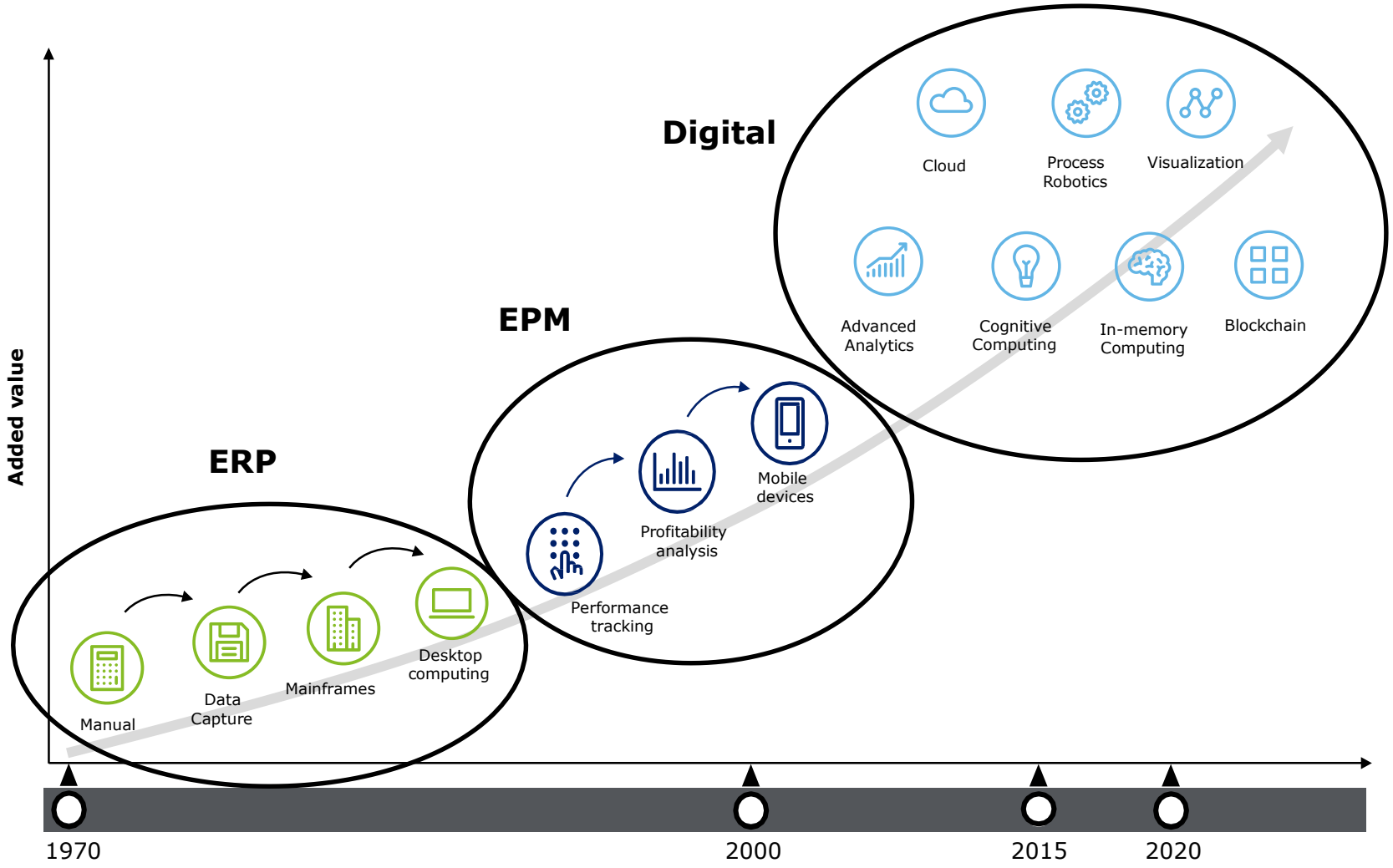
New technologies (Cloud, Robotics, AI, Machine learning, Natural Language Processing, Blockchain)

Insight

Reporting and analytic software

Hindsight

Historical reporting on key performance indicators



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Leading companies are already using process robotics, visualization and cloud technologies to modernize their finance organizations

Core Modernization

Here now

Process Robotics

Visualization

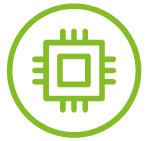
Cloud

Exponentials

Emerging Quickly

Advanced Analytics

Cognitive Computing



In-Memory Computing

Blockchain

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Analytics
Overview

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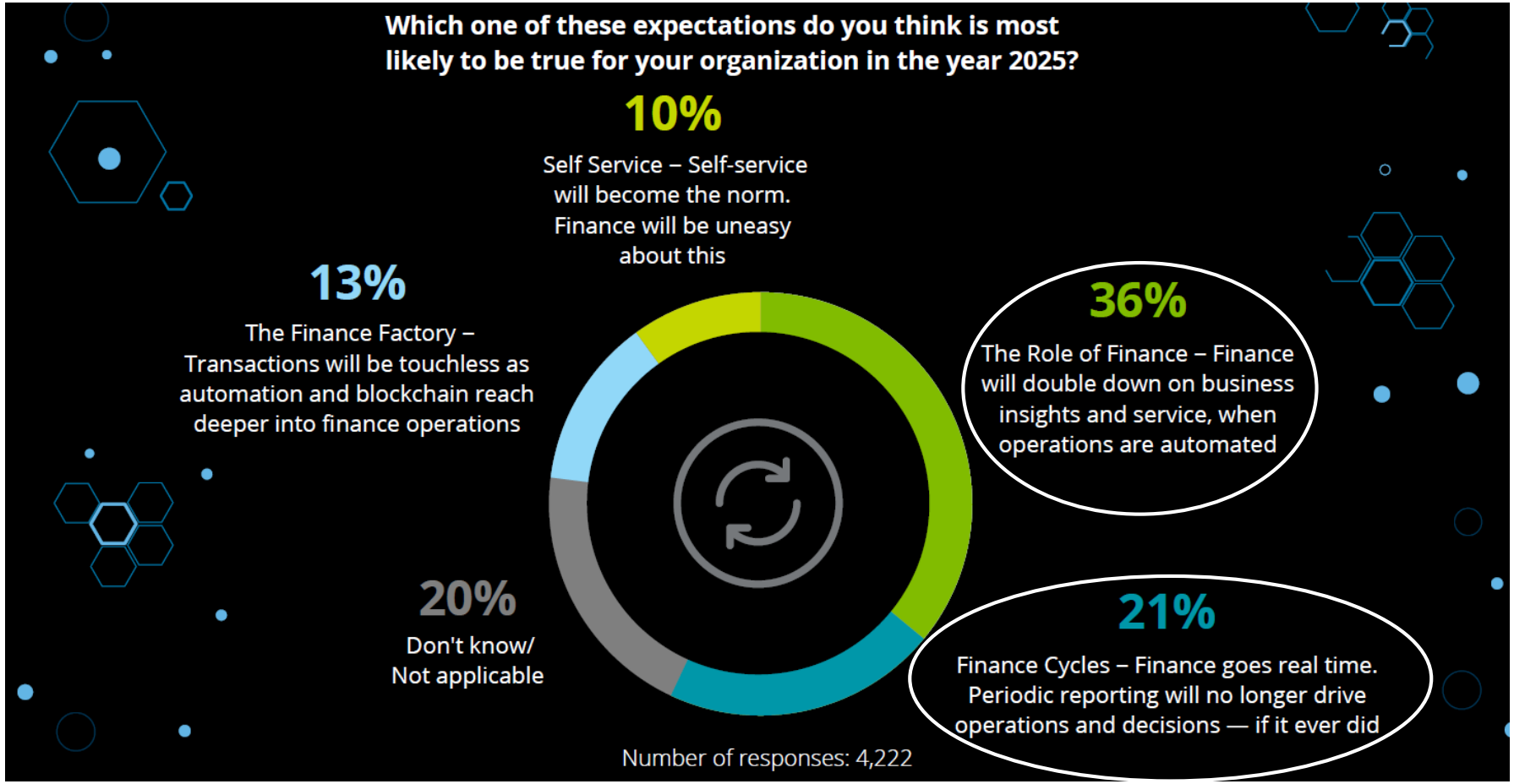
Finance of the Future

In September 2018, 5,096 people attended a finance executive Dbriefs webcast on our Finance 2025 predictions, during which they were polled about a few related topics. Here is one of the highlights…



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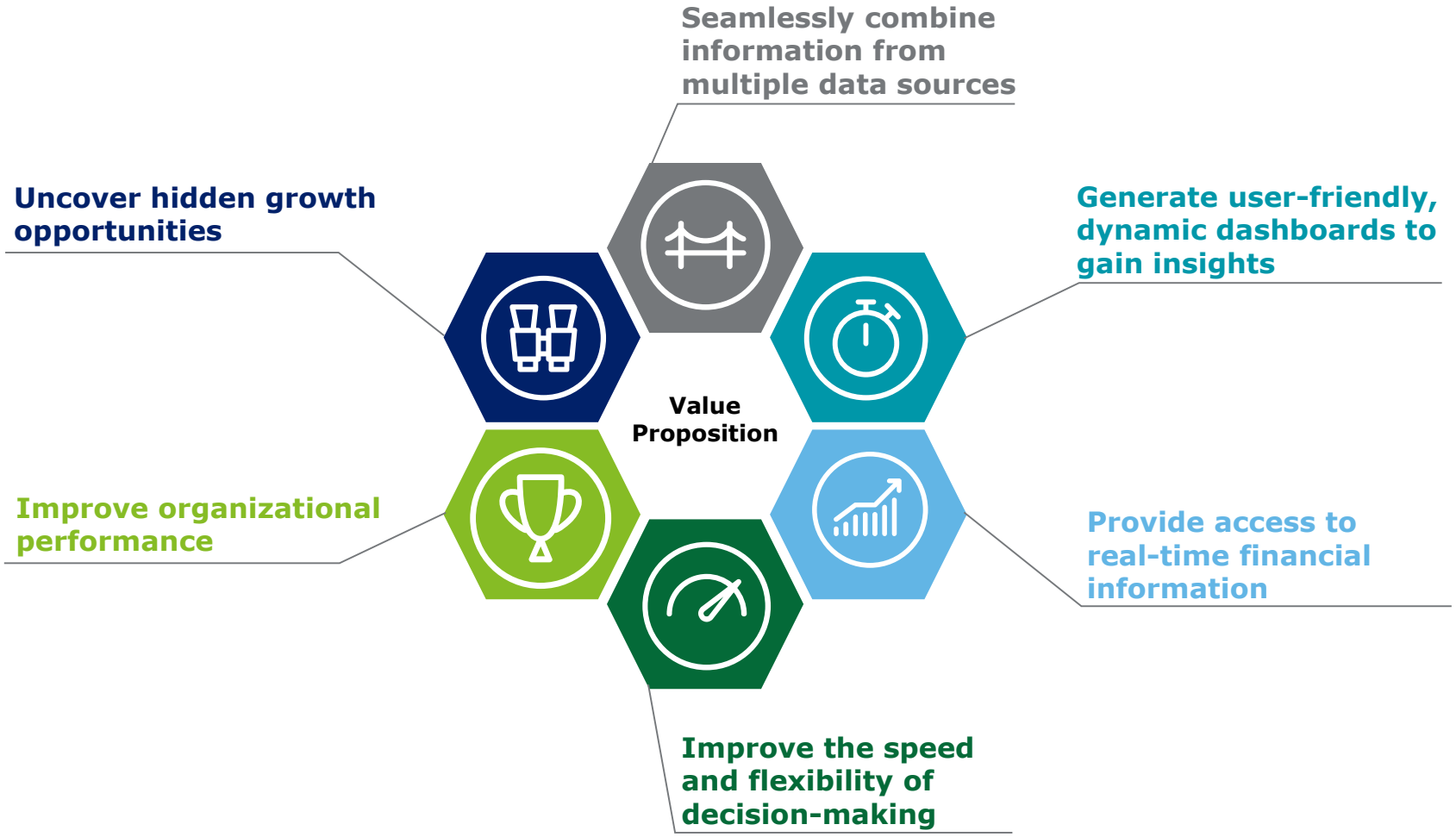
Why is Analytics Important?

The increasing **value of data** has highlighted the **importance of analytics**.



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What is Analytics?

Analyzing **data** to gain **insights** and **achieve** a business goal.

Descriptive or Visual analytics

Presenting data visually to communicate insights more effectively and with more impact.

"Hindsight"
What has happened?

Predictive analytics

Extracting information from data in order to develop predictions, forecasts, or expectations about some future outcomes or trends.

"Insight"
What could happen?

Prescriptive analytics

Leveraging machine learning techniques, optimization, and simulation algorithms to interpret data, advice on possible outcomes, and recommend actions.

"Foresight"
What should we do?

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Let’s try this… count the fives

7	6	2	7	6	7	8	4	3
8	6	0	3	7	1	5	7	2
8	0	5	8	6	3	3	7	9
6	4	6	5	9	7	3	8	7
4	6	9	8	2	5	9	5	6
3	5	2	3	3	7	8	1	2
0	3	3	7	9	8	8	2	3
8	0	4	0	4	7	6	5	9
5	2	5	6	3	2	4	6	2
3	9	7	2	4	1	3	5	8
9	5	6	8	0	9	1	6	9
8	4	2	4	9	2	8	4	6

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What if we did this? Now, count the fives…

7	6	2	7	6	7	8	4	3
8	6	0	3	7	1	**5**	7	2
8	0	**5**	8	6	3	3	7	9
6	4	6	**5**	9	7	3	8	7
4	6	9	8	2	**5**	9	**5**	6
3	**5**	2	3	3	7	8	1	2
0	3	3	7	9	8	8	2	3
8	0	4	0	4	7	6	**5**	9
5	2	**5**	6	3	2	4	6	2
3	9	7	2	4	1	3	**5**	8
9	**5**	6	8	0	9	1	6	9
8	4	2	4	9	2	8	4	6

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Business Goal:

Identify areas with the greatest opportunity for cost savings

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Use Case – Operating Expenses

Dashboard Functionality:

1. Multiple selection options including locations and time periods
2. Ability to breakdown operating expenses ("Opex") spending by key components in order to compare forecasts/budget and actuals while having the ability to drill down to sub Opex categories or spends
3. Dashboard visuals update based on user selection of country or product
4. Provides key KPI metrics and changes compared to prior quarters
5. Provides dynamic headcount movements and variances between actual, budget and forecasted

Value:

- ✓ Provides insights to answer key business questions
- ✓ Allows the user to drill down to better understand periodic fluctuations and isolate variability in magnitude of variance by operating expense category
- ✓ Ability to explore the impact on profitability across operating expenses categories

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Business Goal:

Understand aging of the loan portfolio

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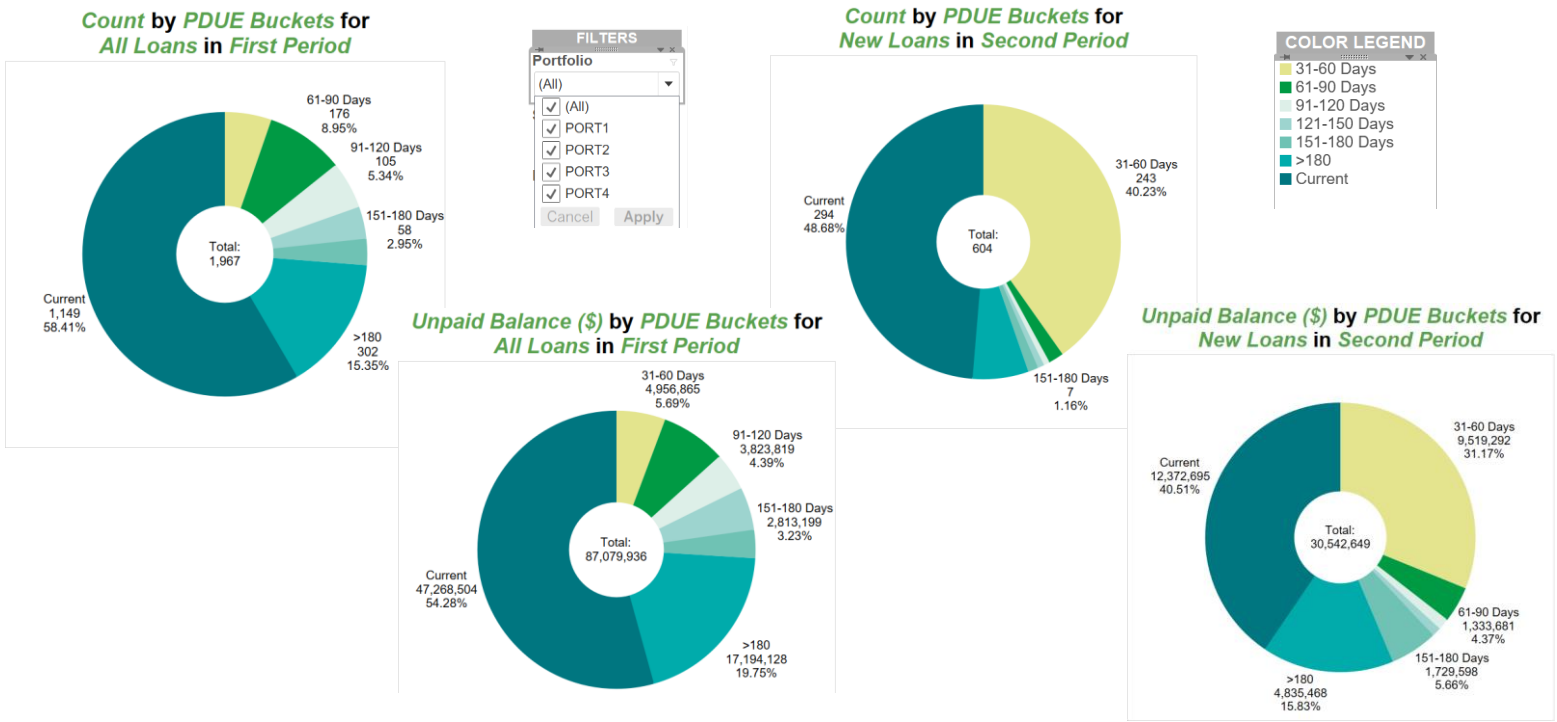
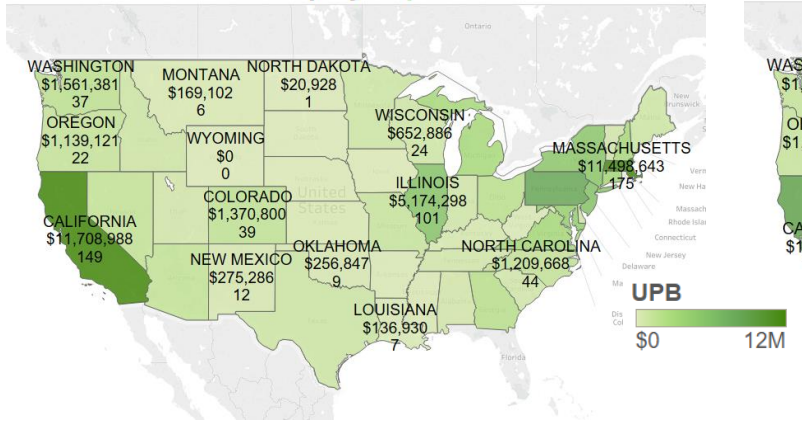
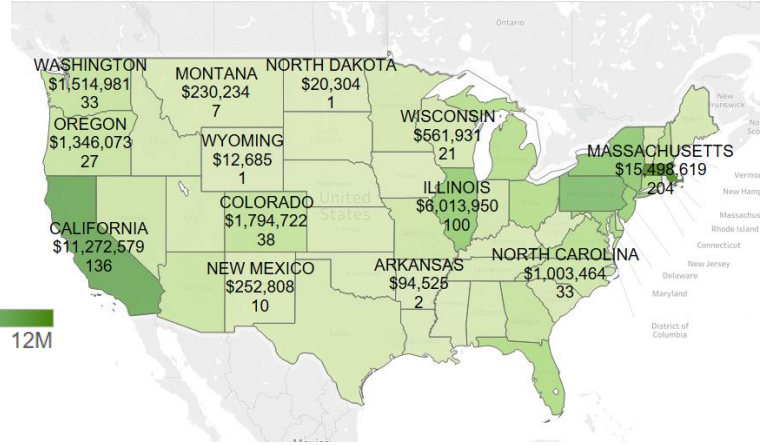
Use Case – Loan Analysis







Visualization:

- ✓ The top pie charts provides comparison of the composition of the entire loan portfolio in the first period vs all new loans in the second period by **past due buckets** presented in loan count.
- ✓ The bottom pie charts show a similar breakdown within the **unpaid balance**.
- ✓ The maps show **geographic distribution** and concentration of loan portfolio for the current period and second period.

Value:

- ✓ Provides insight into **distribution** of loan data by past due buckets.
- ✓ Compares the current composition of loans receivable to prior periods by portfolio to identify **unexpected changes** in the composition of each portfolio.
- ✓ Visualize the changes in the loan portfolios period over period by past due buckets and geographical concentrations, which allows the timely **identification of outliers** and trends that may be inconsistent with management's expectations or underwriting strategies

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Business Goal:

Monitor KPIs and trends for improved decision-making and forecasting

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Use Case – Executive Dashboard

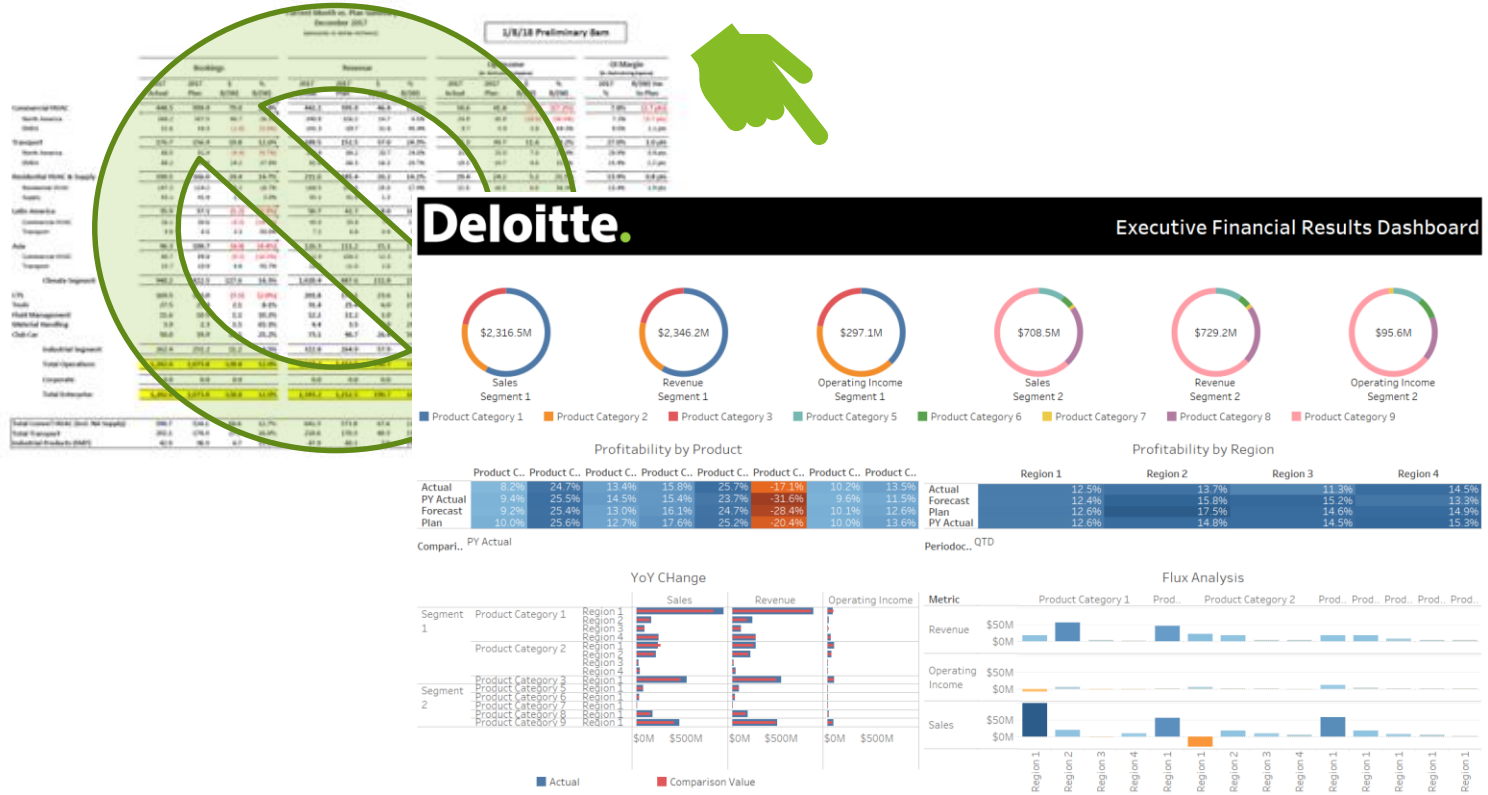
Dashboard Overview:

Provides visual insights into the financial performance of the company:

1. Profitability: visualizes the profitability (revenue, operating income, sales and profit margin) of products and geographies allowing the user to easily identify areas with higher than or lower than typical profitability

2. Performance against plan: allows user to quickly compare current period actuals against plan, forecast and prior year performance and displays the changes from the comparison value to show how a metric varied

3. Trends: can be customized to include trends over time to help contextualize performance against prior periods and seasonal trends



Value:

- ✓ Provides insights to answer key business questions
- ✓ High level executive view of the overall financial health and profitability of a product and/or geography.

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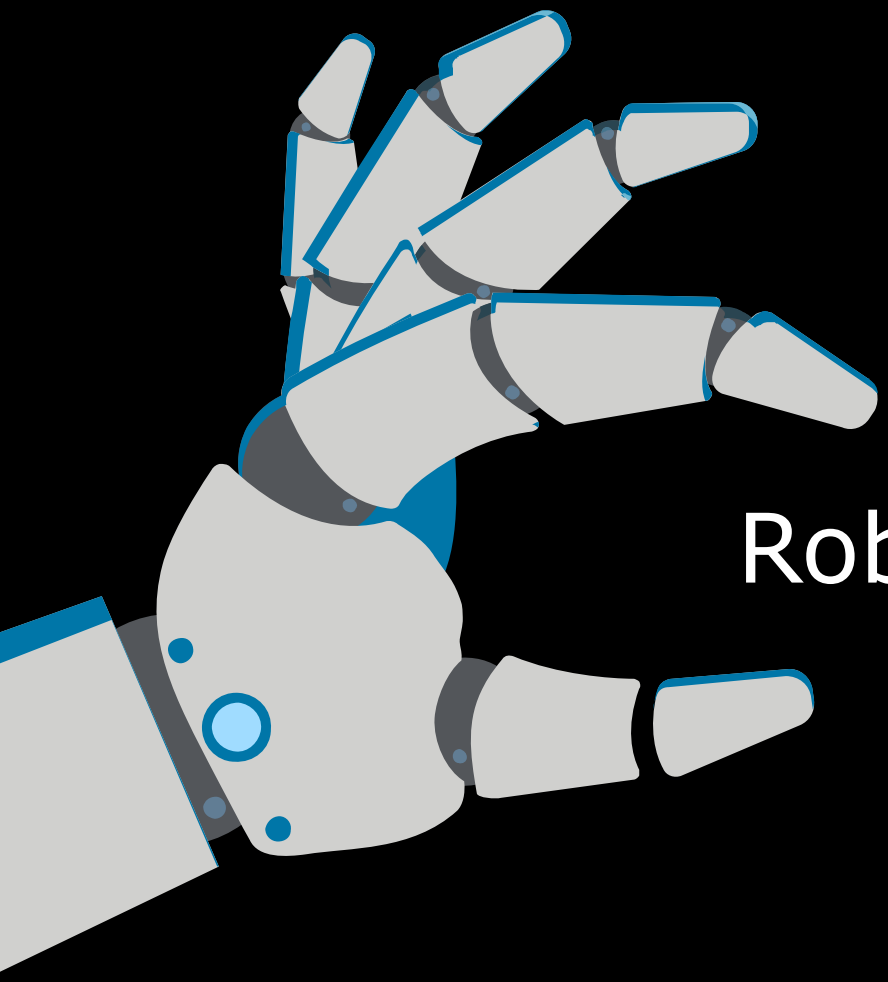

Robotic process automation

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What is RPA?

Automating manual, repetitive, routine processes in an employee's day-to-day job

Increase **efficiency**

12-24 month **payback** period

Cost **savings**

24/7 performance

Boost employee **engagement**

Increase **quality**

Shortens turnaround time

Reduce errors

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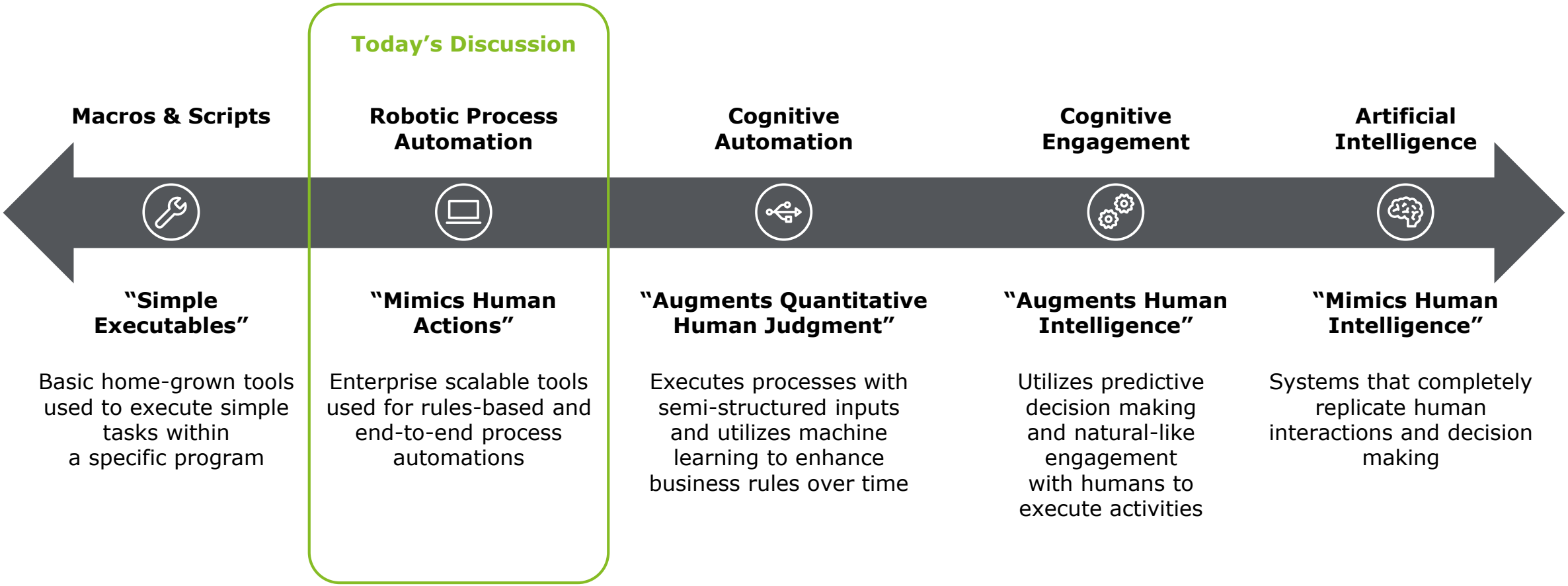
The Automation Spectrum

RPA often is the simplest and easiest to implement, while Advanced Artificial Intelligence is the most complex and transformative along the Automation Spectrum



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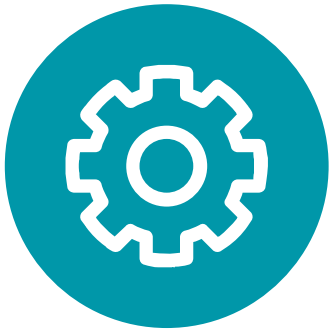
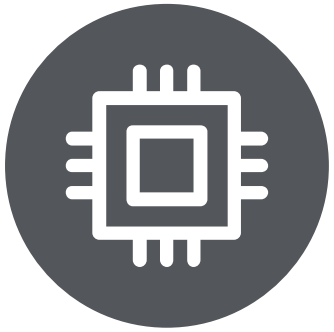
RPA Journey

Data from September 2018 Deloitte Survey of 500 executives representing $3.5 trillion in capital

53% of respondents have already started their RPA journey



57% of IT functions are supportive/highly supportive for RPA implementations, up 26% from the prior year



For organizations who implemented some form of RPA, **95% reported RPA benefits delivered against expectations** either met or exceeded expectations

Over 80% of those who implemented RPA indicated a happier workforce

Yet—only 4% of organizations have scaled their digital workforce

Source: Deloitte report, The robots are waiting, Are you ready to read the benefits? (2018)

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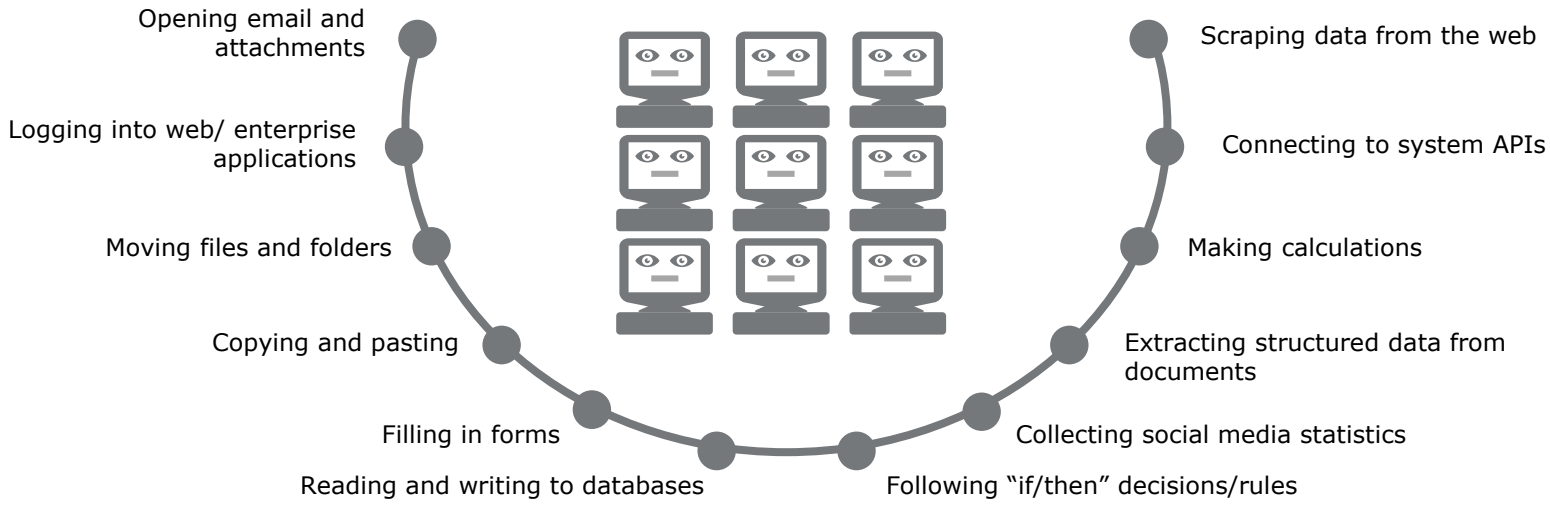
What is Robotic Process Automation (RPA)?

RPA is delivered through software that can be configured to undertake rules-based (deterministic) tasks

RPA is…	RPA is not…
Computer-coded software	Walking, talking auto-bots
Programs that replace humans performing repetitive rules-based tasks	Physically existing machines processing paper
Cross-functional and cross-application macros	Artificial intelligence or voice recognition and reply software

What it can do



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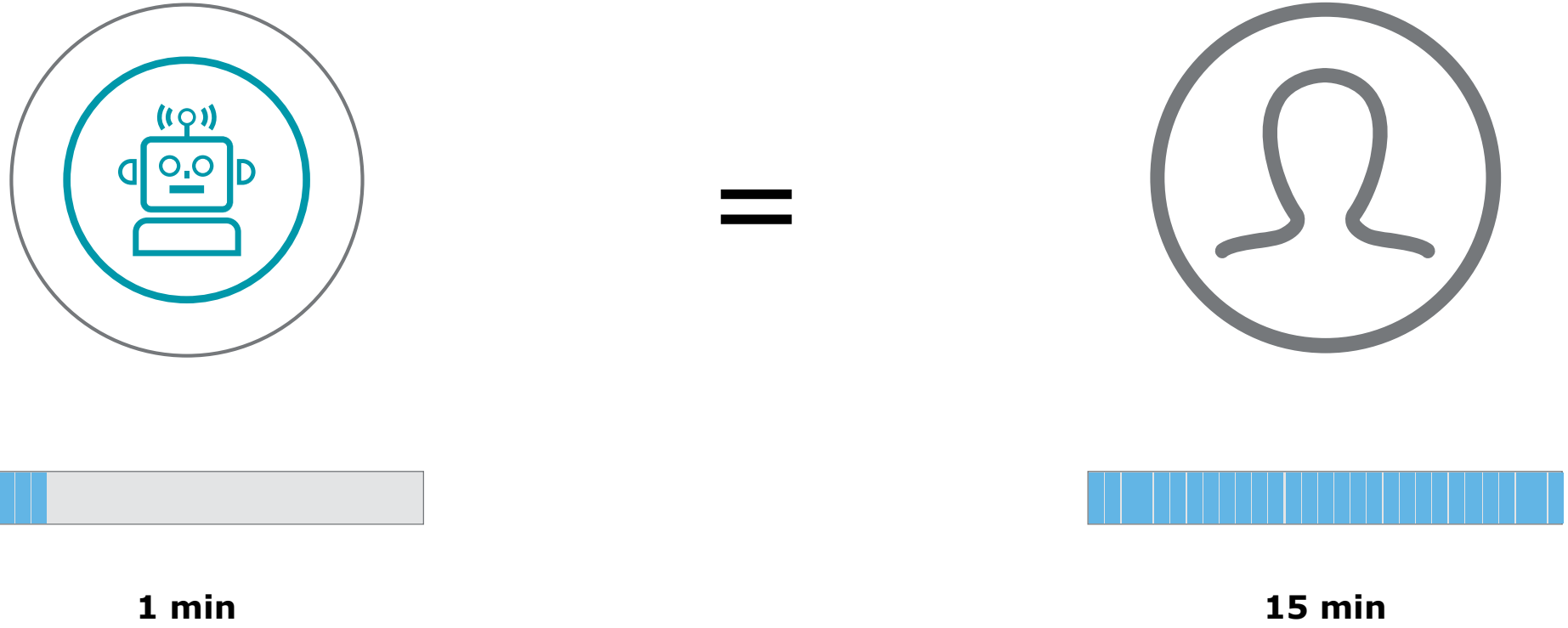
Benefits of RPA implementation

1 minute of work for the robot is equal to approximately 15 minutes of work for a person



Source: Deloitte Robotic Process Automation "Doing More with less"

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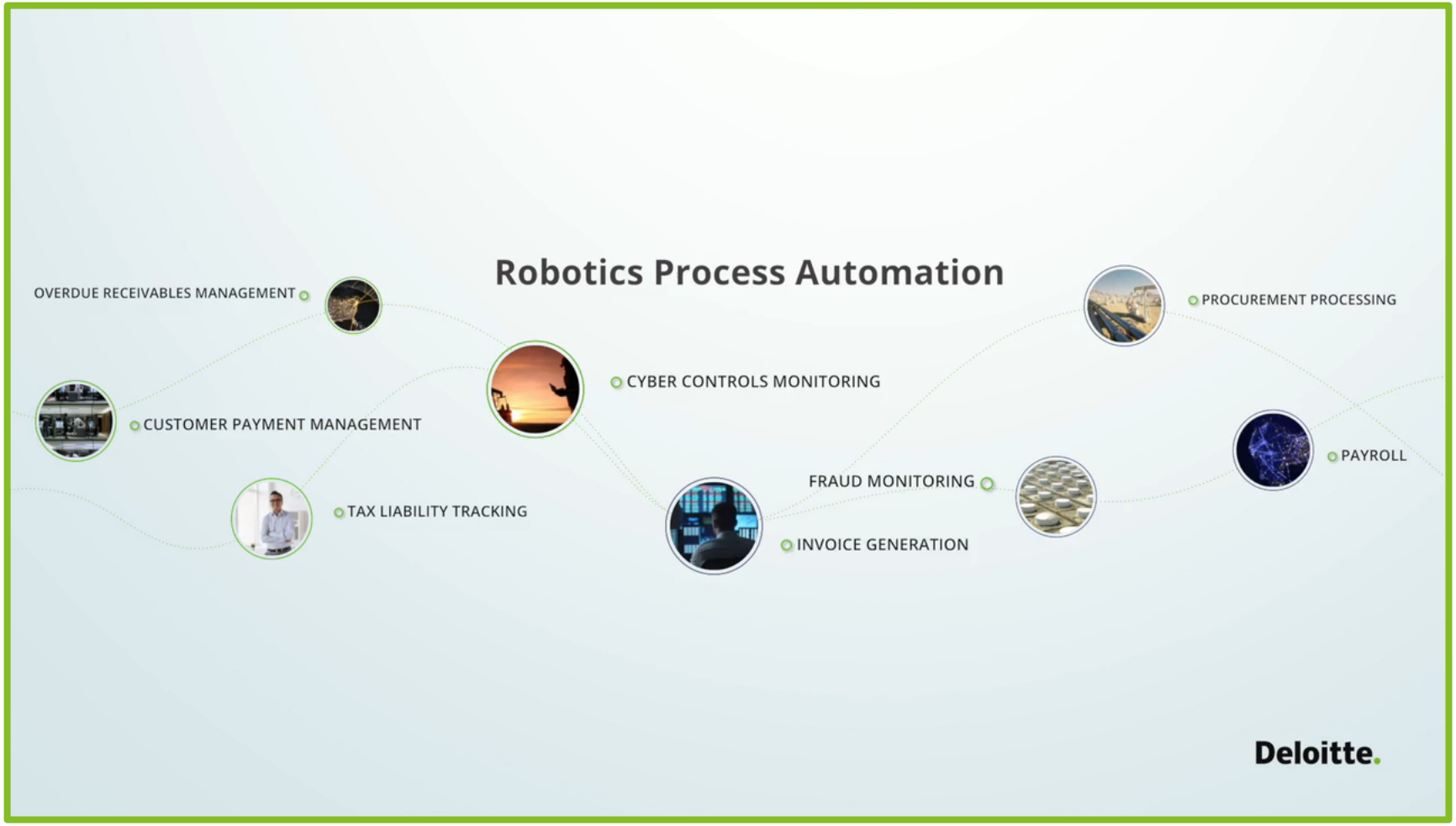
RPA vs. Manual



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Robotic Process Automation

Where do opportunities exist?

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Typical process automation opportunities

Criteria	Typical examples and questions	Automation
High number of systems used	Process would typically require employees to access multiple independent systems to complete the process	●
High transaction volume/value transaction	Candidates for robotic automation need not necessarily be limited to high-value transactional processes. Any process that is labor intensive, high throughput time or high-cost impact errors is a good candidate	●
Prone to errors or re-work	Manual activities in the process today result in a substantial number of errors due to human operator mistakes e.g., flexibility of work-force, complexity of work or infrequency of activity	●
High predictability	The process needs to be defined in terms of a set of unambiguous business rules that describe the process. No need for full documentation today, but it certainly helps!	●
Limited exception handling	Simpler processes with little exceptions in delivery are excellent candidates for robotic automation in the beginning. When learning, the organization can expand to processes which are complex or error prone	●
Significant manual work involved	Processes with little automation support today and large chunks of manual work involved benefit more from Robotics, although the process does not need to be completely 'straight through processed'	●

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Typical first wave automation opportunities

Opportunities exist across the lifecycle of processes typically housed in centers of excellence or which have already been outsourced

1

Process Automation

- Manual, repetitive, rules-based processes
- Enables transaction automation, dynamic data manipulation and streamlined communication

2

Shared Services Process Automation

- Processes with multiple interactions with different systems
- Opportunity for synergies across processes
- Reduce costs across the spectrum of processes

3

Outsourcing Process Automation

- Efficiencies can be built in outsourcing contracts via use of RPA solutions
- Managed-robots-as-a-service showing rapid growth

Opportunity area examples

- Front Office—sales order management, competitor price monitoring, customer engagement automation
- Middle Office—trend tracking, report generation
- Back Office—data reconciliation, app integration

- HR functions—payroll, onboarding, benefits management, education and training, recruitment process
- IT functions—infrastructure/application monitoring, folder and file management, user/directory and release management

- Reconciliations, claims processing, returns management, inventory processing, desktop support, production support, network monitoring

Source: "The robots are coming"—Deloitte Financial Services White Paper (2015)

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Potential RPA opportunities in the Finance Function

Accounting process areas

Record to report

- Perform General Ledger Accounting
- Perform Consolidations
- Complete Monthly/ Quarterly Close
- Perform Project Accounting
- Complete Tax Planning/Accounting
- Calculate Stock Comp.
- Perform Financial Reconciliations
- Coordinate Close Calendar
- Perform Intercompany Accounting
- Maintain SOX Compliance
- Maintain Chart of Accounts Structure
- Calculate and Post Eliminations

Procurement to payment

- Create Requisitions
- Manage Procurement
- Process Payments
- Perform Accounts Payable
- Process T&E
- Administer Procurement Cards
- Maintain Supplier Master Data
- Maintain Vendor Contracts

Order to cash

- Process Orders
- Process Invoices
- Apply Cash
- Manage Collections
- Reconcile Cash
- Reconcile Accounts Receivable
- Maintain Customer Master Data
- Manage Treasury Operations
- Calculate Bad Debt Allowance
- Manage Customer Credit Exposure

External reporting

- Generate Legal Entity Reporting
- Generate Statutory Reporting
- Generate Regulatory Reporting
- Manage Investor Relations

Payroll

- Maintain Employee Master Data
- Manage Payroll
- Authorize and Process Payments

Infrastructure accounting

- Maintain Fixed Asset Master Data
- Analyze Misclassified Entries
- Perform Fixed Asset Accounting
- Perform Inventory Accounting
- Analyze Construction/ Work In Progress
- Perform Intangible Asset Accounting
- Calculate Tax Provisions

Management reporting

- Calculate Expense/ Revenue Allocations
- Calculate Revenue Stream Profitability
- Calculate Performance Measurements
- Generate User Metrics
- Generate Management Reporting

RPA Suitability: Yes | No

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Robotic Process Automation

Risks, leading practices and governance structure

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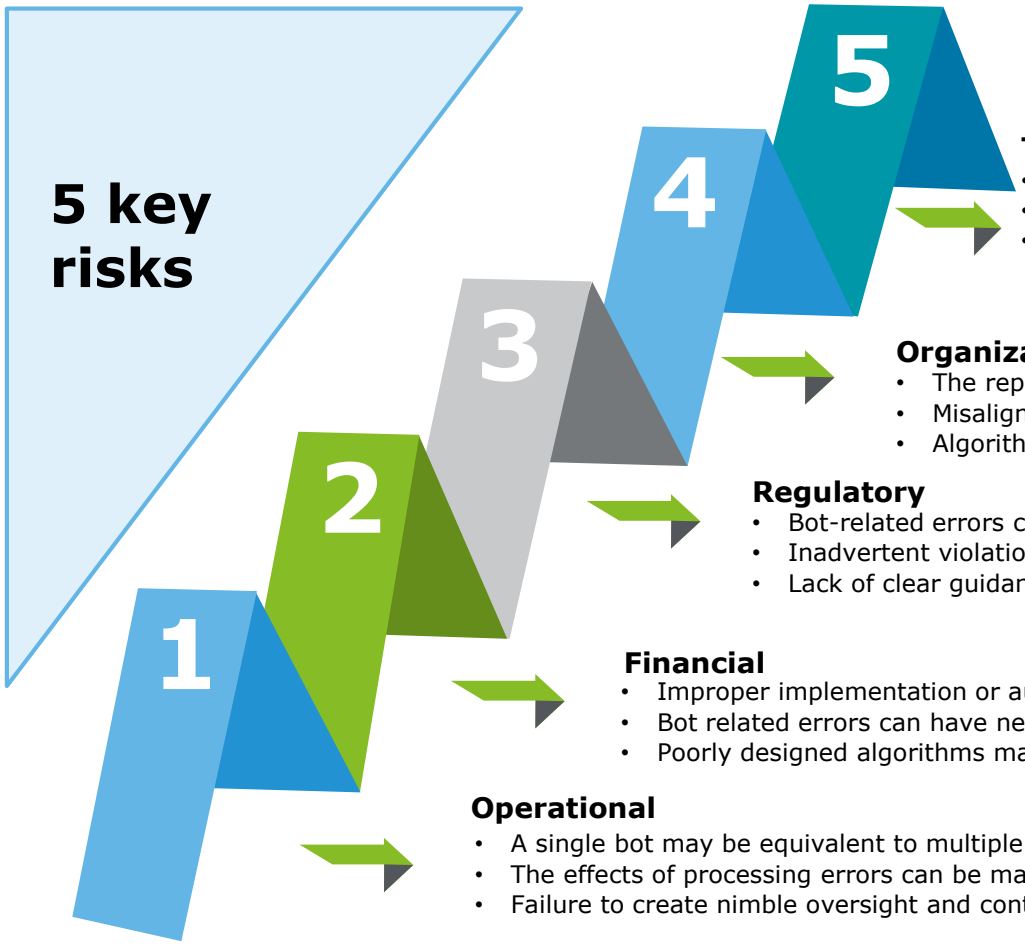
Automation and cognitive solutions introduce new risks that have to be managed effectively in order to realize the benefits



Technology
- Changes to the IT platform will now impact a new, critical element of the workforce
- Anomalous bot activity may severely impact the functions of existing IT systems
- Powerful algorithms can negatively impact other critical IT infrastructure

Organizational
- The replacement or repurposing of FTEs may negatively impact employee morale
- Misalignment across groups may lead to gaps in roles and accountability
- Algorithms without proper controls may induce significant reputational risk

Regulatory
- Bot-related errors can impact validity and accuracy of regulatory reporting processes
- Inadvertent violation of laws by bots and algorithms
- Lack of clear guidance from regulatory bodies regarding best standards for automation and algorithm design

Financial
- Improper implementation or automation of processes can result in financial losses to the company
- Bot related errors can have negative impact to the integrity of internal and external financial reports
- Poorly designed algorithms may make costly mistakes (i.e. trading errors) or incur other financial costs

Operational
- A single bot may be equivalent to multiple FTEs, resulting in concentration of operational risk
- The effects of processing errors can be magnified by high-paced bots and algorithms
- Failure to create nimble oversight and control mechanisms may lead to operational inefficiency when bots or algorithms require changes

A leading practice for addressing these risks is through extending the existing approaches to enterprise risk management

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A set of leading practices should be considered when evaluating the roll-out of RPA across the enterprise

	Leading practice	Description
	**Review and enhance existing controls**	• Business should review the adequacy of existing controls • Leverage existing controls in the robotics environment • New controls may need to be developed to secure the RPA environment
	**Policies and standards**	• Establish consistent policies and standards • Define where robotics can and cannot be applied within the organization (e.g., avoid client-facing processes—and evolve over time)
	**Access management**	• RPA solution may often have elevated access to control provisioning for target systems • Identify proper controls to ensure that access is limited to this system and hostile actors cannot maliciously use the tool
	**Change management**	• Extend existing change management models to account for the existence of bots • Track the impacts of internal or external changes which could affect the bot environment
	**Cyber strategy & governance**	• Define ownership and responsibility around running and maintaining bots should be defined • Establish cross-functional working groups to meet regularly to evaluate bot effectiveness, review and resolve issues • RPA must fit into the organization's existing cyber strategy and governance program
	**Monitoring and response**	• Configure the bots to detect and report errors, and raise exceptions to individuals who can take appropriate remediation activities within an acceptable time frame • Equip the three lines of defense with tools and transparency to oversee and control operational risks through bots' production of audit-trail records

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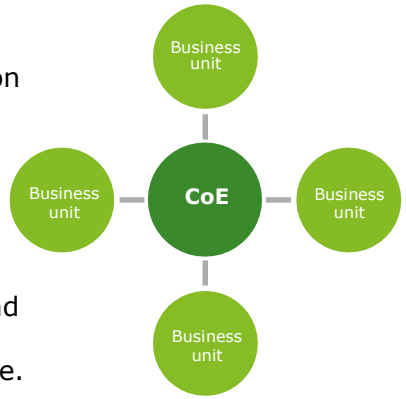
Robotics operating models

At a high-level, there are three different models for operating a CoE to consider.

Centralized

RPA owned by a central team, who controls RPA strategy, vendor selection and governance. Opportunities are driven, identified, assessed and prioritized by the central team. The central team also controls development and manages deployment, support and maintenance.

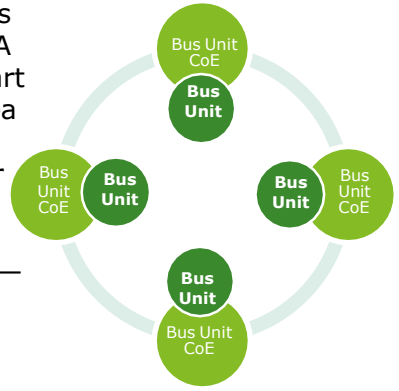


Advantages
Clear strategy for whole enterprise, able to prioritize for the whole organization, improve efficiency, reduce duplication. Effective utilization and cost management is enabled as resources are deployed across business units as required

Disadvantages:
Lack of ownership from the business, lack of input from SMEs, limited ability to provide customized services for a particular business unit, issues with sustainability of the solution.

Decentralized

Each business unit has its own RPA capabilities. RPA not owned by any one part of the business. Each area can see their potential, They can select whatever solutions they wish, how to implement and how to support/maintain—with third parties or by building capability themselves.

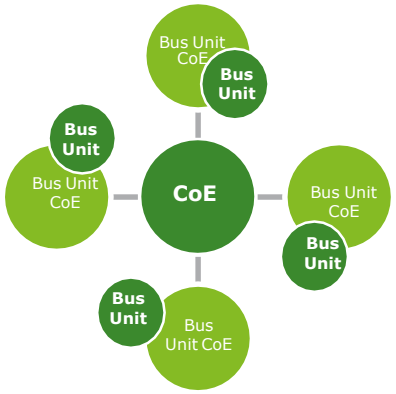


Advantages
Strong ownership in the business, solutions are optimal for the business area and aligned to needs.

Disadvantages:
Lack of consistency, lack of progress in some areas, may be overlaps in capability and/or capacity, lessons learned may not be shared, lower return opportunities may be delivered first.

Federated

Devolved activities:
RPA identification, assessment and prioritization; capability decisions are made locally. Some organizations have the concept of "RPA Factory" which exists locally to identify, design, build and deploy robots.



Advantages
Balances local ownership, prioritization and drive with central strategic decisions and economies of scale.

Disadvantages:
Neither the ownership level of decentralized model or the enterprise wide prioritization of the central model. Service quality may suffer if there is not close coordination with the central CoE.

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Robotic Process Automation

The journey

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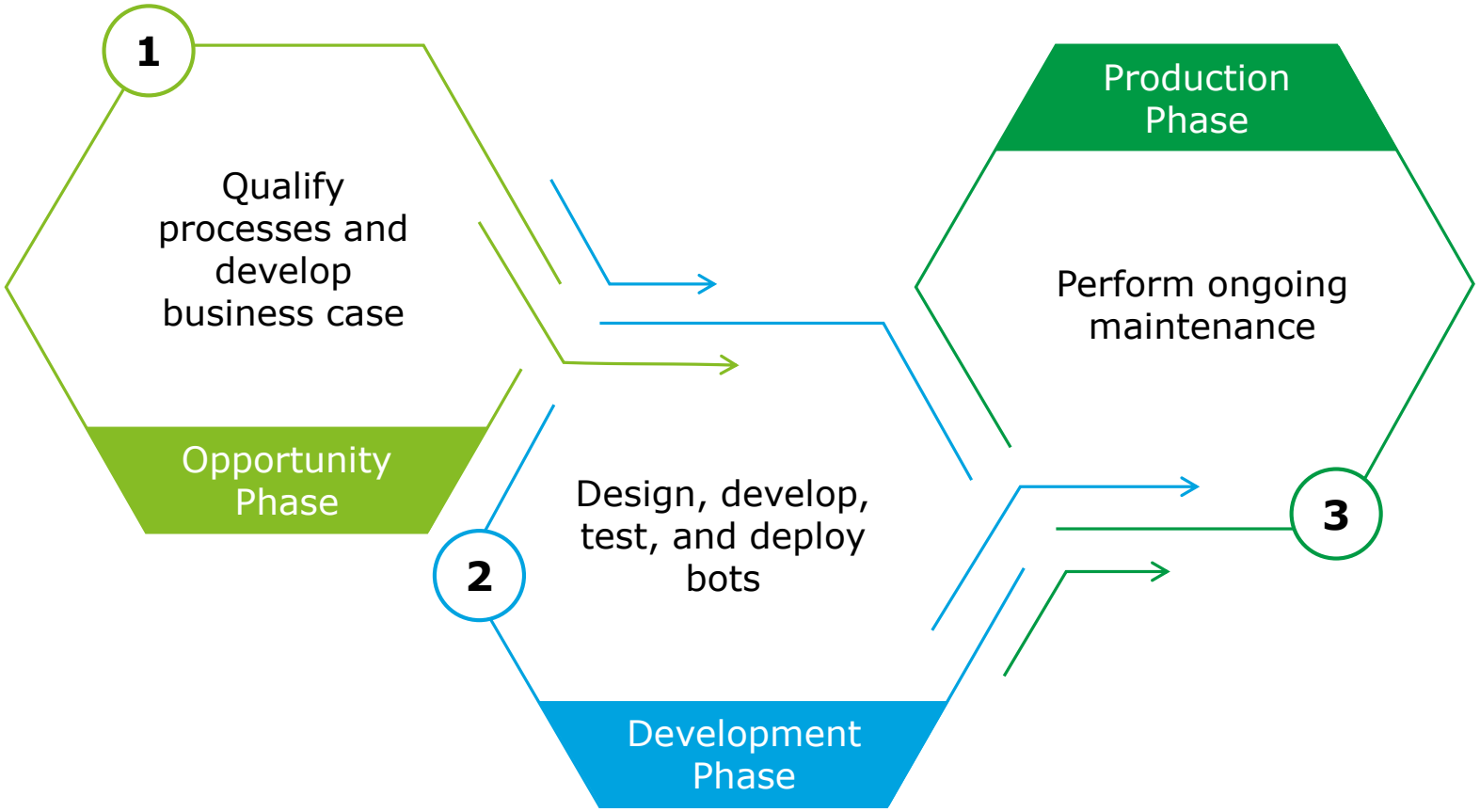
RPA lifecycle

The robotics journey is spread across three key phases:



The governance and execution responsibilities will vary depending on the phase of the journey.

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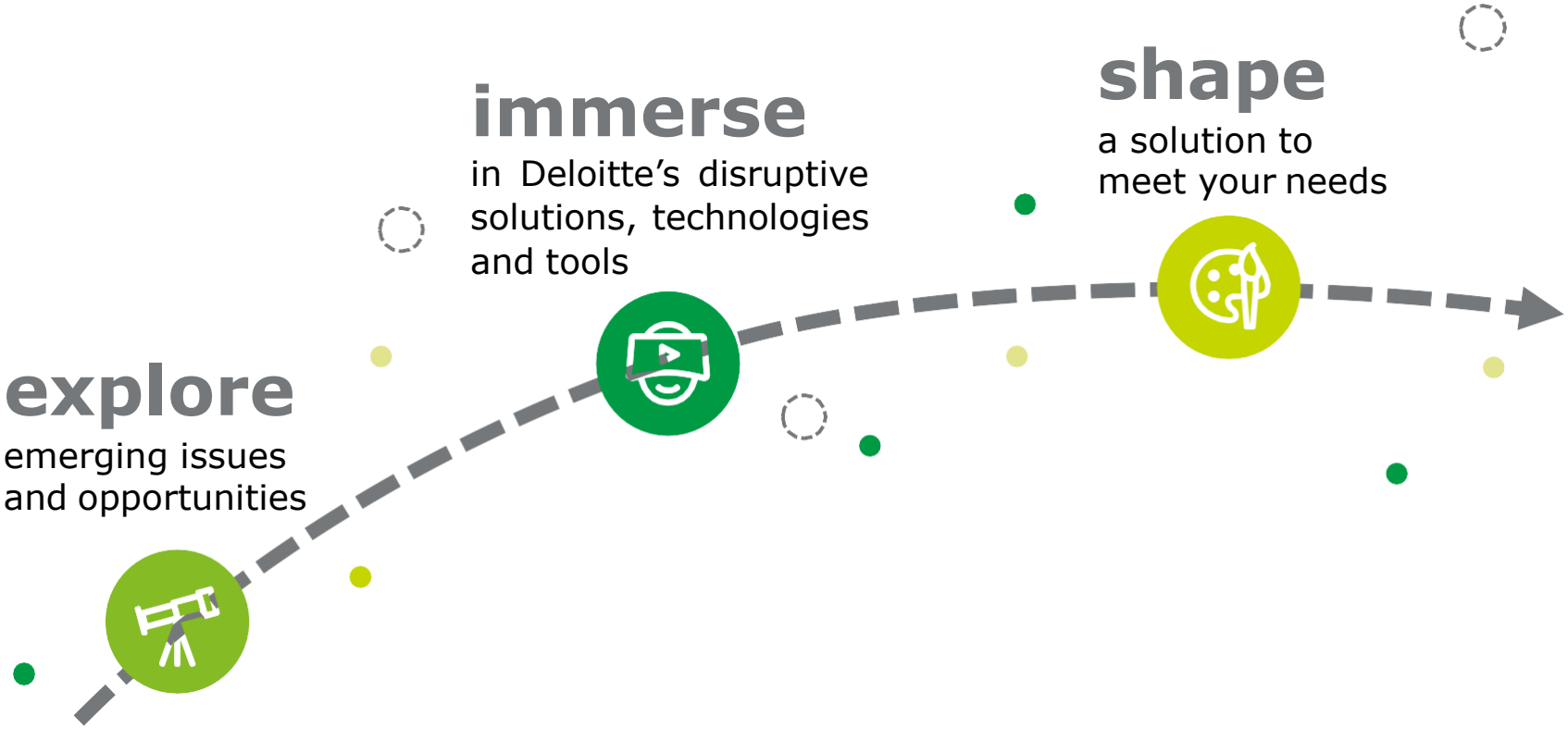
The Spark Arc

During a Spark Experience, you will explore and collaborate on the new possibilities of the future of "digital controllership" through solutions and tools specifically shaped to meet your organization's specific business challenges



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Project Outputs

The following project outputs will be prepared after conducting the Close Optimization Lab.

Lab Summary Deliverable

Document that captures the entire lab experience including a summary of key discussion points, action items, revelations for the day, as well as a 180 day plan.

Future Close Vision

Framework for the future state close delivered by the Controllership team including guiding principles and gap between the current state and the hypothesized future state priority capabilities.

Initiative Portfolio

Detailed document outlining the prioritized initiatives identified in the Close Optimization Lab and includes high-level scoping, timing, complexity, resource/cost requirements, and expected benefits each initiative is designed to deliver.

Roadmap

High-level transformation roadmap, including milestones for key initiatives and preliminary implementation timing

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Q&A

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