

Driving Innovation

Embedding Automation and AI

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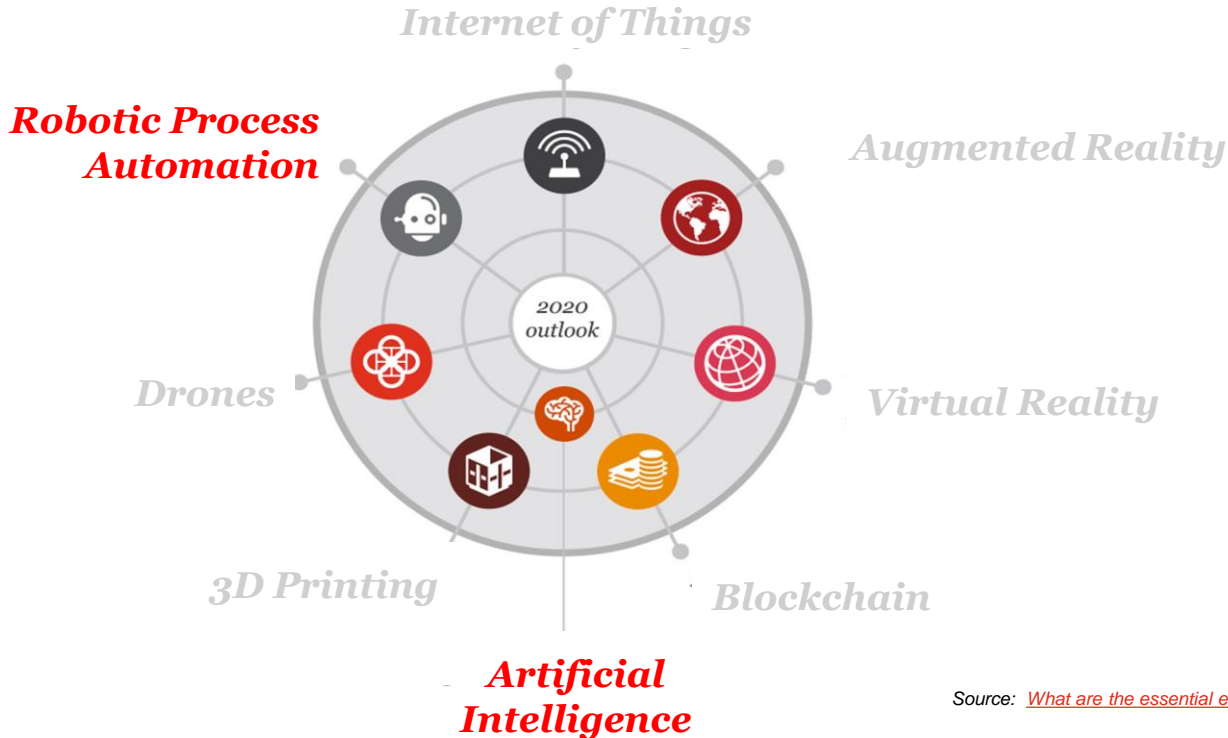
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Emerging Technologies





Where is all of this headed

In our analysis, there are **8** key technologies of high relevance to our clients
– **2** are most applicable to this discussion



Source: [What are the essential eight technologies?](#) (PwC, July 2016)

Automation technology is rapidly evolving and layering capability

	AUTOMATION IMPACT			
	LOW			HIGH
	<i>Assisted - RDA</i> <i>Robotic Desktop Automation</i>	<i>Unassisted - RPA</i> <i>Robotic Process Automation</i>	<i>Orchestration</i> <i>Business Process Automation Platforms</i>	<i>Cognitive Computing – Intelligent Process Automation</i>
<i>Description</i>	Automated activity triggered by a human across multiple applications using a desktop interface	Automating processes not requiring human intervention to run on a continuous basis controlled and optimized through a control room	Automating end-to-end processes orchestrating work allocation between both humans and machines across multiple automation technologies	Use of a cognitive framework to develop insights, applying learning from experience to data from multiple sources
<i>Applicability</i>	Repetitive activities within a process can be automated to support an individual in completion of a process running on their desktop	Well defined manual processes that benefit from scalable and flexible digital labor across multiple activities and functions	Processes that require the use of multiple types of automation including workflow, event management, work scheduling and limited judgement to complete an entire process	Processes that require processing of unstructured data for automation of tasks that require judgement
<i>Maturity</i>	High	Medium	Medium	Low

The pace of automation will accelerate dramatically with the addition of user driven AI and execution accelerators – **Intelligent Automation**

Today

Future

The Intelligent Automation Continuum represents a forward-looking perspective on the evolution of capabilities over time.

The continuum extends from common technologies in use today to potential replacement technologies to be adopted in two to five years [or more] in the future.

The continuum is further classified into Current State, Trending, and Future State technologies along its axis.



▶ **Robotic Process Automation (RPA)**

- **Automating labor-intensive, repetitive activities across multiple systems and interfaces** by training and/or programming third-party software to replicate a user's workflow
- Operates at the presentation layer without the need to change existing systems



▶▶ **Business Process Orchestration**

Aliases: Intelligent Business Process Management

- **Reengineering existing business processes** by using software, integrating systems, and restructuring labor to optimize workflows and minimize costs
- Combines workflow with common APIs as well as RPA to model, simulate, and extend automation across a business process



▶▶▶ **Intelligent Process Automation (IPA)**

Aliases: Smart Process Automation

- **Combining RPA with artificial intelligence, BPM, and Analytic technologies** to identify patterns, learn over time, and optimize workflows
- Through "supervised" and "unsupervised" learning, algorithms make predictions and provide insights on recognized patterns
- With IPA, robots can replace manual clicks (RPA), interpret text-heavy communications (natural language processing), make rule-based decisions that don't have to be pre-programmed (machine learning), and offer customers suggestions (cognitive agents)



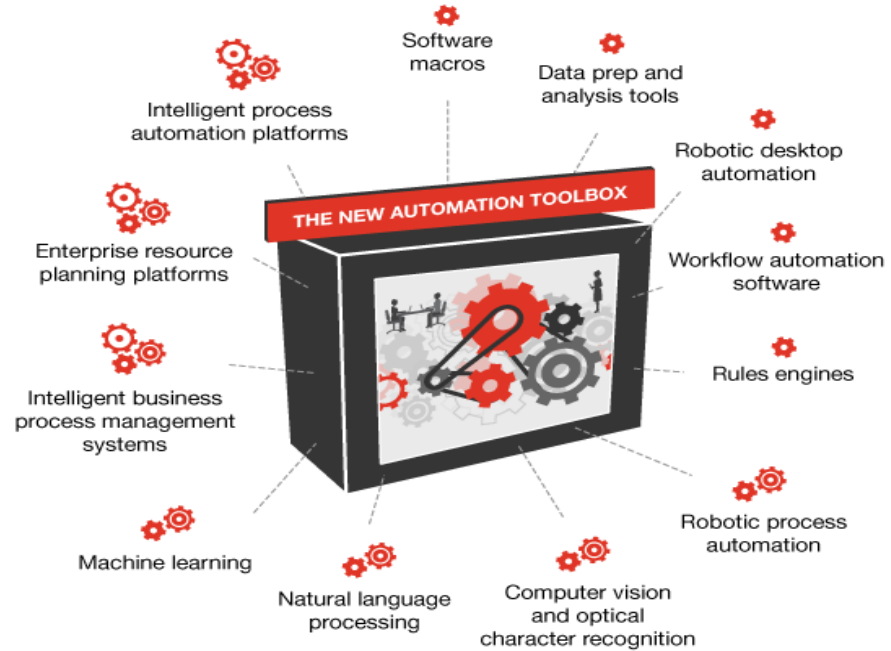
▶▶▶▶ **Autonomous Automation**

- **RPA that acts on its own, choosing its actions based on business goals**
- Autonomous automation, being developed for the future, creates and deploys machines that act on their own.
- Very few autonomous automation systems — systems that make decisions without direct human involvement or oversight — are in widespread use today. Early examples include automated trading in the stock market (about 75 percent of Nasdaq trading is conducted autonomously) and facial recognition. In some circumstances, algorithms are better than people at identifying other people. Other early examples include robots that dispose of bombs, gather deep-sea data, maintain space stations, and perform other tasks inherently unsafe for people.

▶ Current State ▶▶ Trending ▶▶▶ Future State

Intelligent Automation layers on capabilities found in next generation technology platforms

Intelligent Automation capabilities are enhanced through the application of other new technologies that can be primarily driven by businesses with support from IT.





The reality of what we are seeing

Common questions surround the value and strategic approach

Is the value really there?

Are we going about this the right way?

What are we not thinking about?

To realize sustainable value, you must address the 4 pillars of automation

People & Change



- What are the organizational impacts of automation?
- How should you organize around automation?
- What are the roles & responsibilities of team members?
- How will I upskill my current staff?
- What does the hiring profile of the future look like?

Process & Data Transformation



- How will you determine what to automate?
- Is every manual process a candidate for automation?
- When is process change required?
- Is it better to focus on underlying systems, data, or manual activities?
- How do determine the potential impact of automation?

Automation Technology



- Where is the line between traditional IT and process automation projects?
- Which technologies are best fit for purpose?
- Which existing technologies can be leveraged?
- How will you incorporate future technologies?
- How do we support the automation in the future state?

Program Governance



- How will you manage risk & controls?
- Which elements of the SDLC should we adopted?
- How do we measure impact of automation?
- What are the potential cyber security threats?
- How does governance change with scale?



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Thank you!



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