KPMG

Innovative thinking

Moving government operations from 'acting like a human' to 'thinking like a human' through Intelligent Automation

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With you today

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The perception of disruption

"While technology disruption has always been an issue, the difference today is speed of this transformation and technology availability"

98
See technological disruption as more of an opportunity than a threat *

72%
Say that rather than waiting to be disrupted by competitors, their organization is actively disrupting the sector in which they operate **

49% Are concerned about the integrity of the data on which they base decisions **

45% Say they are not leveraging digital as a means to connect to their customers and vendors/suppliers effectively **

**61%** Are concerned about integrating cognitive processes and artificial intelligence **

*Source: US CEO Outlook 2018 survey: *Growing Pains* offers insights into the greatest concerns of CEO's and how they plan to pursue growth and technology driven disruption. Findings based on a study of nearly 400 US CEOs, with annual revenues greater than US $500 million; 39% have greater than US $10 billion in revenues.*

**Source: US CEO Outlook 2017 survey: *Disrupt and grow* offers insights into the greatest concerns of CEO's and how they plan to mobilize for the fourth industrial revolution. Findings based on a study of the 3-year outlook of nearly 400 US CEOs, with annual revenues greater than US $500 million; 32% have greater than US $10 *billion* in revenues.*

The future of intelligent automation in government

$140M

Cantor Fitzgerald's research suggests that as many as 110-140 million FTEs could be replaced by IA technologies, reducing costs by 25 – 40%.

HELLO!
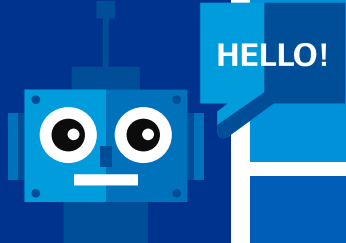
50%

A recent study by KPMG LLP reports that 50 percent of respondents would be using Intelligent Automation technologies at scale within 3 years.

600%AN800%ROI

Recent research from the London School of Economics suggests **a return on investment in robotic technologies between 600% and 800% for specific tasks.**[*]

$190.61 billion by 2025

Markets and Markets estimates that the AI, or cognitive computing marketplace, will be valued at[**]

$ 26 billion

$ 39 billion

McKinsey's 2017 report on the State of Machine Learning and AI estimated that, in 2016 alone, companies invested between $26 billion to $39 billion in Artificial Intelligence.

Top 5

Gartner predicts that by 2020, smart machines will be a top five investment priority for more than 30% of CIOs.

Morgan Stanley predicts that **50-60%** of white collar work is automatable, and this will have a 30% labor cost reduction.

*Source: "LSE - The IT function and Robotic Process Automation" – The London School of Economics and Political Science 2015

"****Source:** Artificial Intelligence Market by Offering (Hardware, Software, Services), Technology (Machine Learning, Natural Language Processing, Context-Aware Computing, Computer Vision), End-User Industry, and Geography - Global Forecast to 2025– Market and Market February 2018

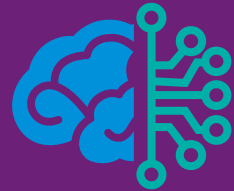# Intelligent automation marketplace is maturing rapidly

These technologies —from robotic process automation to cognitive automation—are advancing at a staggering pace, and will disrupt almost every business and industry.
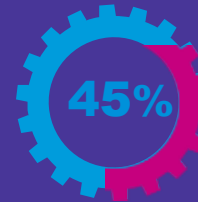
Cognitive technologies

60%
Investment in cognitive technologies will be an area of focus for **almost 60% of CEOs through 2020**

81%
Of CEOs are emphasizing **trust**, **values** and **strong culture** to sustain the organization's future
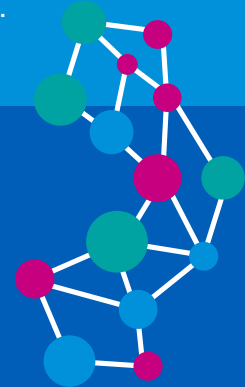
Connecting with customers

45%

45% say they are not effectively leveraging digital to connect with their customers

The concern for integration

61% are concerned about integrating cognitive processes and artificial intelligence in the workplace.

Active disruption to gain insight

86%
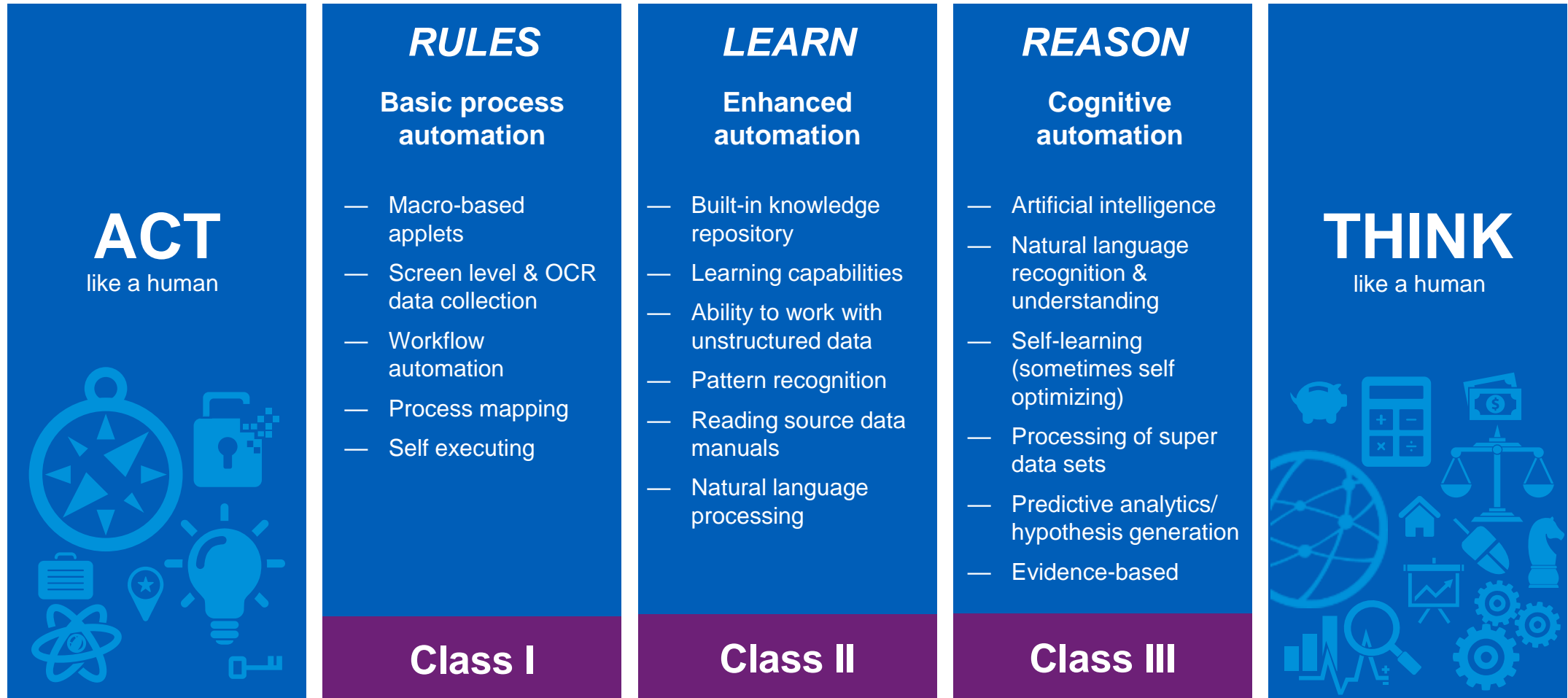said their organizations are actively disrupting their own sectors*

Staying competitive means embracing digital

60% worry their organizations' sensory capabilities and innovative processes will not stand up to rapid disruption

Source: 2017 & 2018* CEO Outlook Survey, KPMG LLP (June 2017 & June 2018)

Classification of intelligent automation capabilities

ACT
like a human

RULES

Basic process automation

— Macro-based applets
— Screen level & OCR data collection
— Workflow automation
— Process mapping
— Self executing

Class I

LEARN

Enhanced automation

— Built-in knowledge repository
— Learning capabilities
— Ability to work with unstructured data
— Pattern recognition
— Reading source data manuals
— Natural language processing

Class II

REASON

Cognitive automation

— Artificial intelligence
— Natural language recognition & understanding
— Self-learning (sometimes self optimizing)
— Processing of super data sets
— Predictive analytics/ hypothesis generation
— Evidence-based

Class III

THINK
like a human

Targeting government back office functions

Agency functions

Human resources

— Employee onboarding and offboarding
— Payroll
— Time recording and compliance
— Repeatable tasks in ERP
— Email notifications
— Populating/aggregating employee Information

Citizen engagement

— Natural language processing – enabled analytics
— Social media mining/monitoring
— Predicting high-priority incidents
— Manual CRM updated
— Application data entry

Customer support

— Virtual agents (chatbots)
— Call center "agent assist"
— Task execution

Finance and accounting

— Record to report
— Plan to perform
— Procure to pay
— Azquire to retire
— Invoice processing/exceptions
— AP/AR actions
— Reporting
— Auditing
— Fillings

Compliance

— Research/document review
— Document preparation
— Controls automation

Supply chain and procurement

— Controls management
— Inventory management
— Exceptions/fallout

Fraud and data validation

— Interfaces to third-party sources
— Interfaces to internal systems
— Data quality improvements

Information technology

— Automate dashboards and metrics reporting
— Automate IT GRC controls execution/validation
— Implementation of system changes

— Incident management and response
— Communicate between system interfaces

— HW/SW requests/fulfilment
— Automated backups, activities, and upgrades
— UAM and IAM requests/reviews and removal

Improving payment accuracy

Agency's challenge

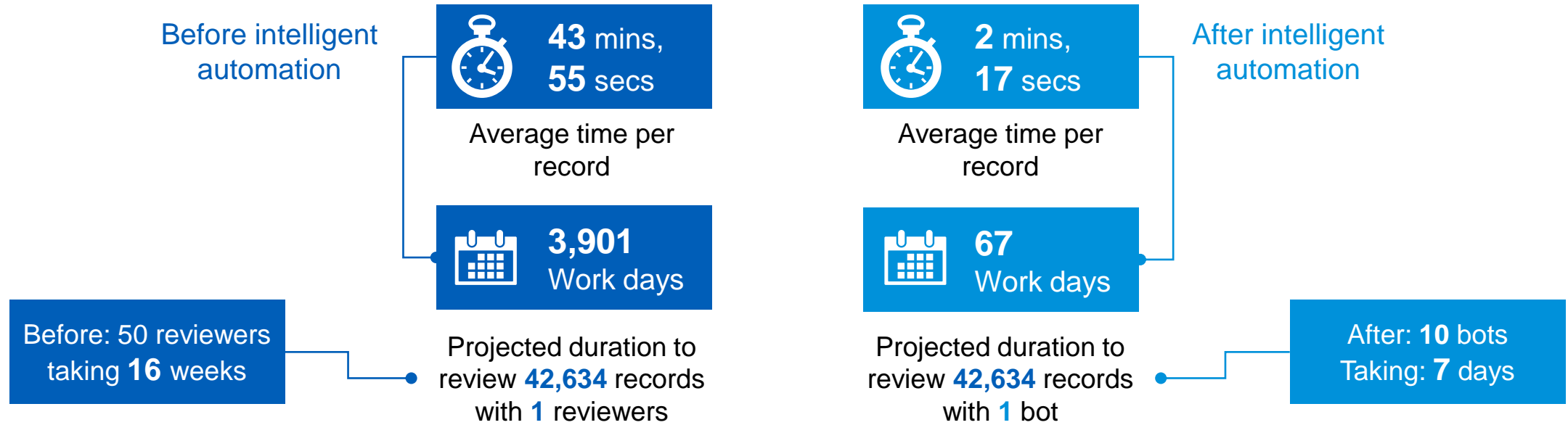|			
Congressionally mandated to annually measure the accuracy of payments	**42,000+** records submitted for evaluation	Limited funds and resources allocated to perform tasks	Untimely feedback to stakeholders, given the volume of submitted records

Modernizing and accelerating a time-consuming and manual documentation intake validation process at a healthcare agency with:

— Robotic process automation (RPA)

— Optical character recognition (OCR)

— Machine learning (ML)

— Natural language processing (NLP)

Government case study: Realized benefits

Before intelligent automation

43 mins, **55** secs
Average time per record

3,901 Work days

After intelligent automation

2 mins, **17** secs
Average time per record

67 Work days

Before: 50 reviewers taking **16** weeks

Projected duration to review **42,634** records with **1** reviewers

Projected duration to review **42,634** records with **1** bot

After: **10** bots Taking: **7** days

Benefits

Annual cost and time savings
— **$1M+** [estimated]
— **3** months

Improved customer experience
— Timelier feedback to customers **7** day vs. **4** months
— Identified human errors

Increased workforce satisfaction
— Specialized resources can focus on more meaningful reviews instead of clerical tasks

Driving a new citizen service experience standard

Past	Future
Happenstance	Personalized, empathetic experiences
Impersonal and mechanical	Anticipation before problem arises
Reactive after problem occurs	Streamlined, optimized channel mix
Inefficient, high call volume	Single line of communication across channels
Repetitive and coherent channels	Contextual information provided to agent
Agent searches for information	Singular, integrated experience
Fragmented, disjointed, and siloed	

Three trends that matter

By 2020, **85%** of all customer interactions will be powered by a chatbot.[1]

Gartner

In the future, the focus of service activities will no longer reside in a collection of buildings that house 'call center agents', but in a virtual ecosystem of digital and human assistants.

1 Integrated

The citizen will demand seamless integration between self-service and live-service.

2 Personalized & Enabled

The citizen will expect the agent of tomorrow to know what they've been doing, where in the ecosystem they've been trying to do it, and their specific need.

3 Proactive

As citizen expectations continue to rise, government organizations must excel at proactive citizen service

[1]Gartner. Gartner Predicts a Virtual World of Exponential Change. (October 2016)

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Citizen experience of tomorrow

> **Today's average customers uses 2.7 channels per interaction**

> *By 2019, 75% of workers whose daily tasks involve the use of enterprise applications will have access to intelligent personal assistants to augment their skills and expertise. [1]*
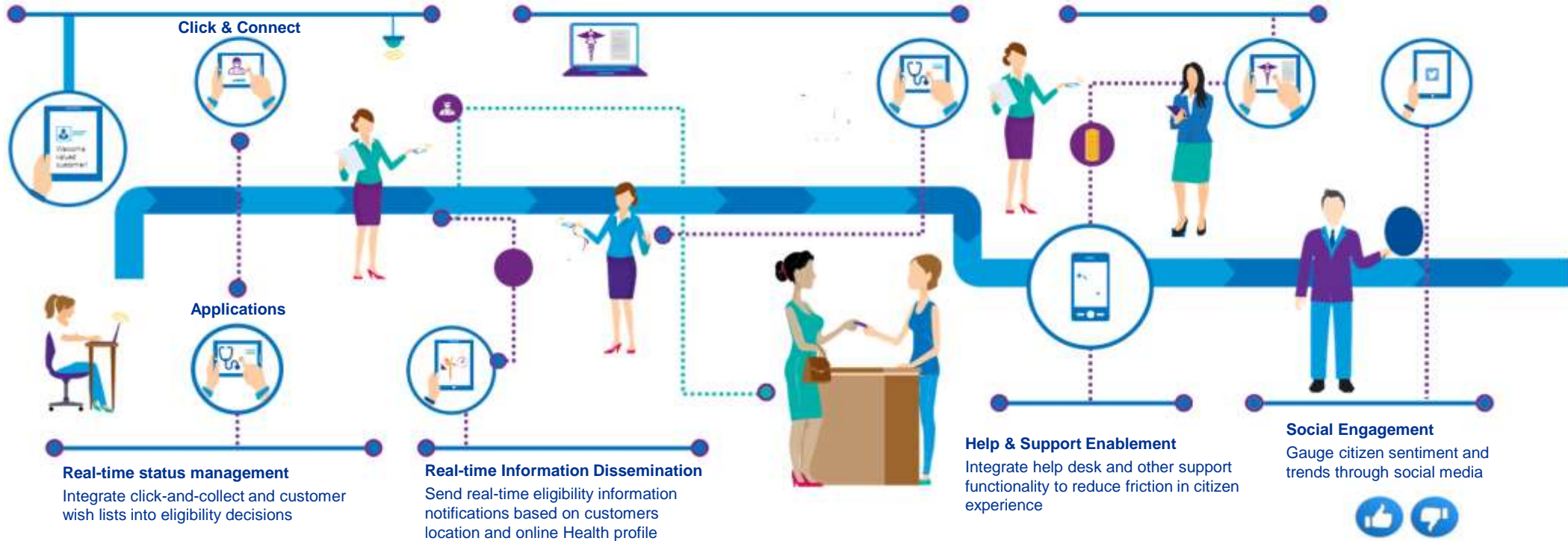
Personalization
Collect data through beneficiary opt-in questionnaires and engagement program, and behavioral tracking and analysis across digital channels

Click & Connect

Intelligent Search
Enable information-rich, cognitive experience within agency websites

Empowered Citizens
Equip citizens with actionable content and information to deliver a personalized online experience & self-service capabilities

Applications

Real-time status management
Integrate click-and-collect and customer wish lists into eligibility decisions

Real-time Information Dissemination
Send real-time eligibility information notifications based on customers location and online Health profile

Help & Support Enablement
Integrate help desk and other support functionality to reduce friction in citizen experience

Social Engagement
Gauge citizen sentiment and trends through social media

Intelligent search

Stopbullying.gov:

With a vision towards shifting from isolated content search to unified answers, reduce complexity, improve citizen access to important content, and increase value in both newly created and existing content
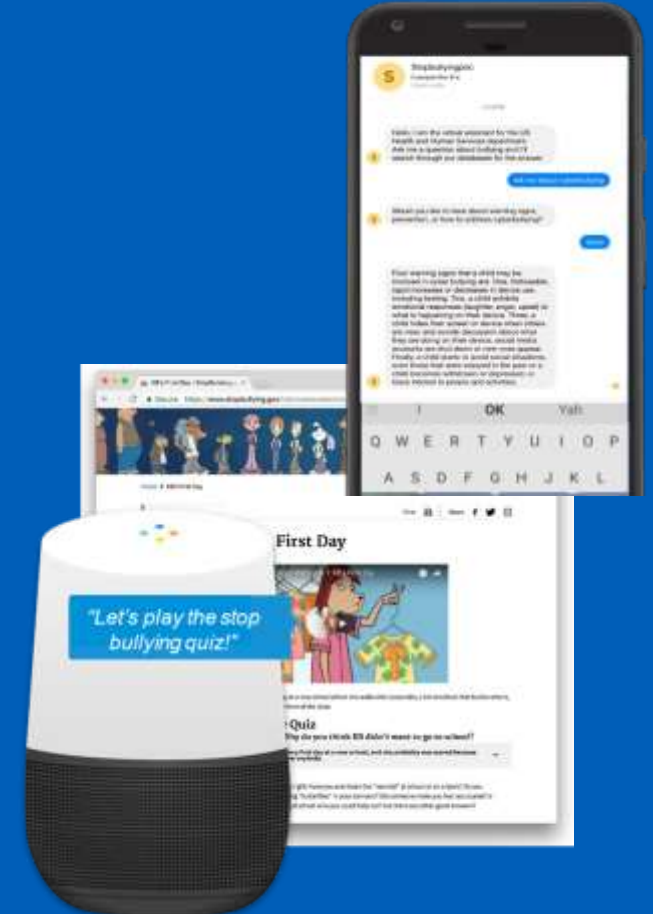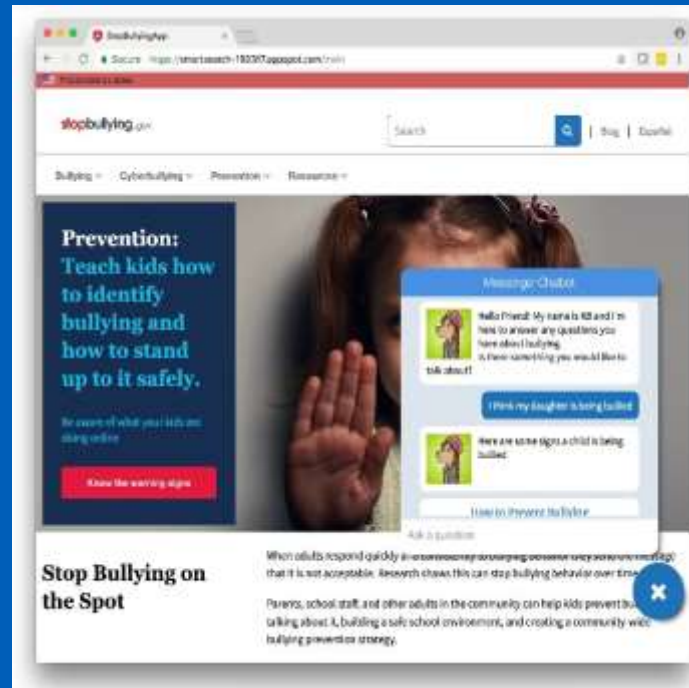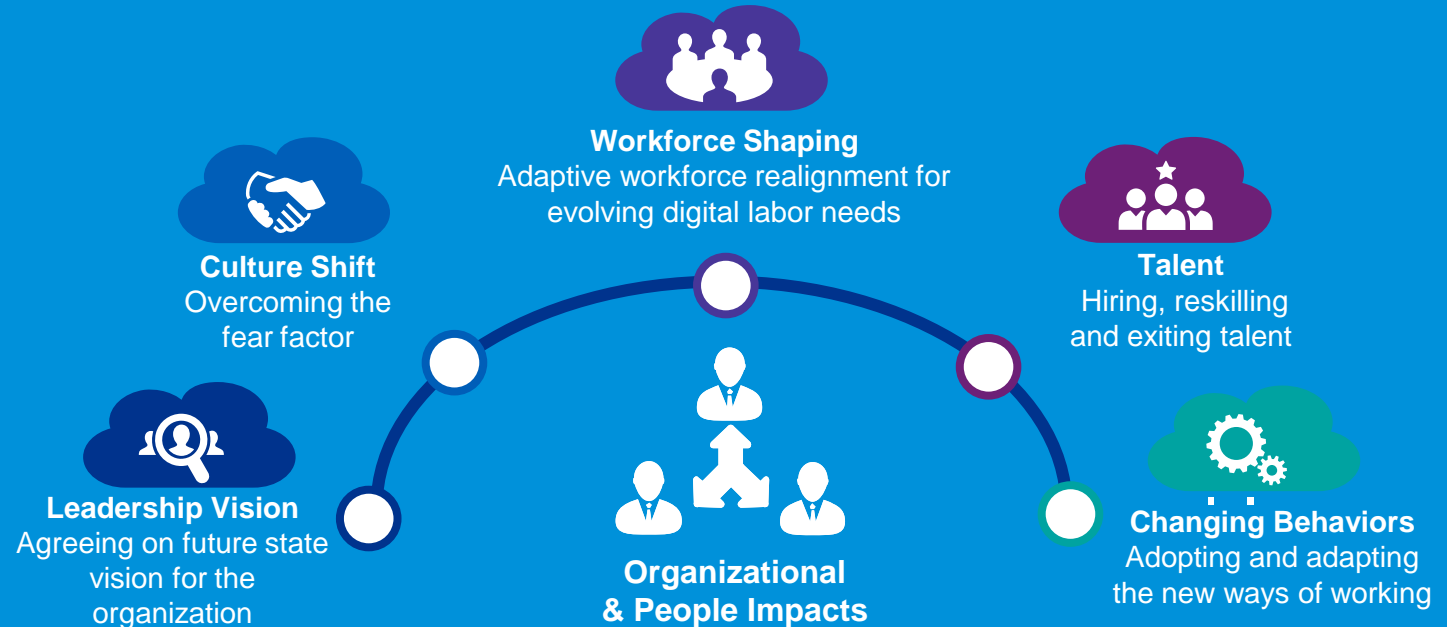
Organizational & people impacts

To successfully incorporate Intelligent Automation within processes and teams, organizations must proactively address the impacts to their people

&

the overall organization in order to minimize business disruption and expedite the timing of benefits realization.

Workforce Shaping
Adaptive workforce realignment for evolving digital labor needs

Culture Shift
Overcoming the fear factor

Talent
Hiring, reskilling and exiting talent

Leadership Vision
Agreeing on future state vision for the organization

Organizational & People Impacts

Changing Behaviors
Adopting and adapting the new ways of working

Unique Characteristics of Intelligent Automation Implementations

Speed of Implementation
The rate of change is faster than traditional process and system implementations

Demands a Higher Purpose Conversation
Employers will need to understand and engage with the impact they will have on society

Constant Change
Intelligent Automation implementations will be iterative and constantly evolving to develop optimal workforce productivity and ROI

Getting started

"Size the Prize" – Evaluate processes by suitability for automation and effort to estimate overall benefit potential
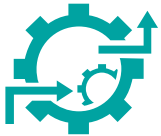
Conduct a Proof-of-Value – Demonstrate technology effectiveness and validate performance

Define a Deployment Roadmap – Outline steps to stand up an Intelligent Automation capability and begin to capture the benefits

Additional considerations & lessons learned

Establish an enterprise-wide capability

Partner with your technology function

Strike the balance of your digital transformation

Protect your business case

Select vendors aligned with your ambition

Set your priorities and the rest will follow

Build solid foundations

Identify and incentivize talent

Start small; deliver swiftly

Consider business scalability
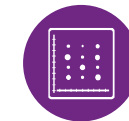
Evolve your analytics capability

Automation 'horses for courses'

Questions to start thinking about today

It's no longer business as usual
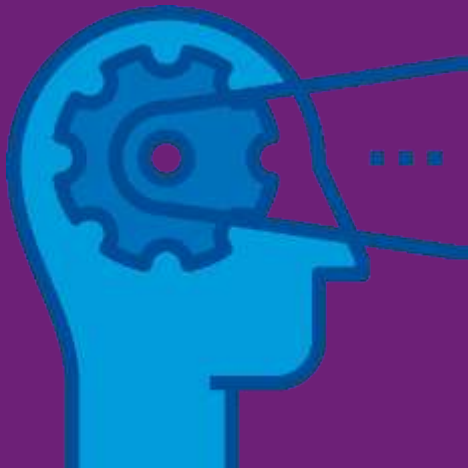
— Where can we streamline and enhance our citizen experience?

— Where can we reduce the number of mundane and respective tasks our workforce performs?

— What message will automation bring to our workforce and how would the future look?

— What are the risks and costs we face when we have rework or corrections?

— Is our data telling us all we need to know?

— Can we offer more within our current footprint? Could we expand our scope/market share of services we offer?

— Where are we with automation now and where can we expand?

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Thank you

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