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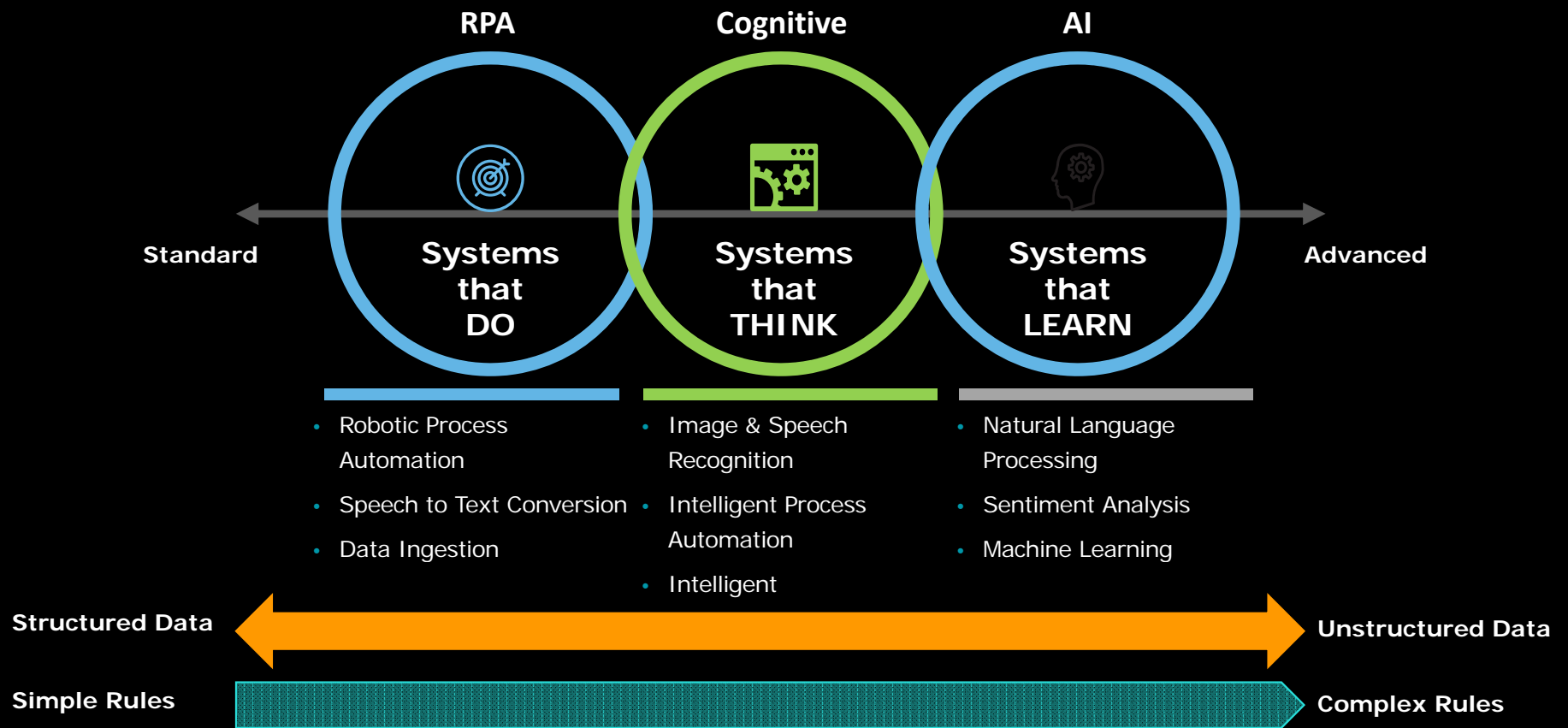


The Bots Are Coming

Paul Macmillan
May 23, 2019



The spectrum of new capabilities



Explosion of data



Exponential computing power

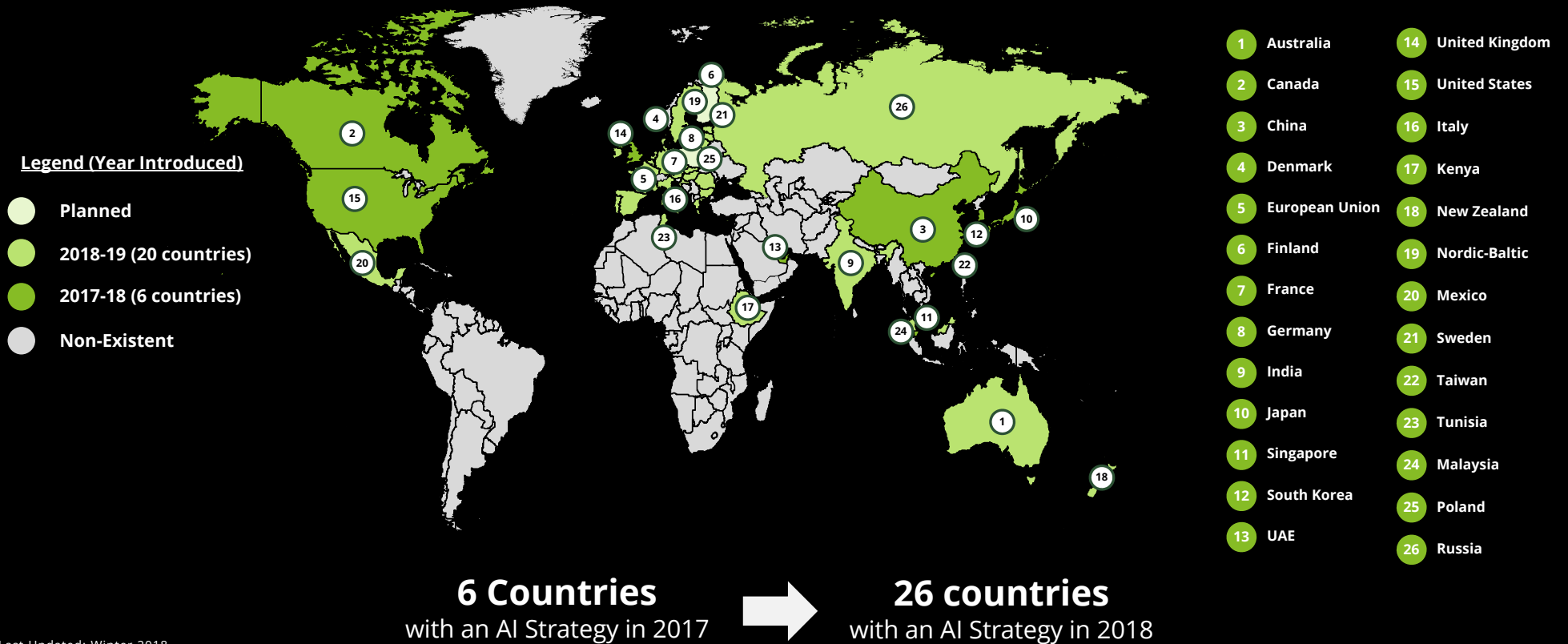


Sophisticated algorithms



Intelligent human-machine interactions

There is a global surge of national artificial intelligence strategies



Last Updated: Winter 2018

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These national strategies focus on some common outcomes



Setting Ethical and Privacy Standards

*Australia
Singapore
Nordic-Baltic Region*



Accelerating Research through Centres of Excellence

*Sweden
Finland
France*



Increasing Talent, Jobs, and Economic Growth

*United Kingdom
Taiwan
South Korea*

Canada is charting its own path towards AI

Pan-Canadian AI Strategy



- 1 Enhance Canada's research and training profile
- 2 Increase collaboration across geographies
- 3 Attract talent to translate research into benefits

Responsible Artificial Intelligence



- 1 Narrow versus general intelligence
- 2 Data quality and prevention of bias
- 3 Transparency and accountability

Artificial Intelligence Source List (EN578-180001/B)

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada		Part - Partie 1 of - de 2 See Part 2 for Classes and Conditions / Voir l'Annexe 2 pour Classes et Conditions	
RETURN BIDS TO: RETOURNER LES SOUMISSIONS À:			
Bid Receipting - PWGSC / Réception des soumissions - TPSC			
11 Laurier St., 11 ^e Étage / 11 ^e Étage Place du Fortage, Phase III Core (B2) / Noyau (B2)			
Ottawa / Québec NIA 055 / NIA 055 Bid Fax: (819) 991-9776			
LETTER OF INTEREST LETTRE D'INTÉRÊT			
Comments - Commentaires			
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Vendor/Firm Name and Address / Raison sociale et adresse du fournisseur/l'entrepreneur			
Issuing Office - Bureau de distribution / Bureau: Software Procurement Division / Division des achats des logiciels d'informatique / Services de la Clientèle 4th Floor, 10 Wellington Street / 4 ^e étage, 10, rue Wellington Ottawa / Québec NIA 055			
Page 1 of - de 1			

Services

Expert Advice on AI Applications and Taxonomies
 Feasibility Assessments, Peer Reviews

Products

Design Implementation and Road-mapping
 Develop and Implement Pilots

Solutions

Commercially off-the-shelf products (COTS) related to AI
 Text analytics and sentiment analysis
 Clustering and pattern recognition
 Outcome predictions
 Chatbot interactions
 Automated decision making support

Despite this global mobilization towards artificial intelligence, many governments still fail to realize the full benefits of these technologies. Why?

Despite this global mobilization towards artificial intelligence, many governments still fail to realize the full benefits of these technologies. Why?

Often because artificial intelligence is viewed with a **lack of trust, low awareness, and an inability to scale.**

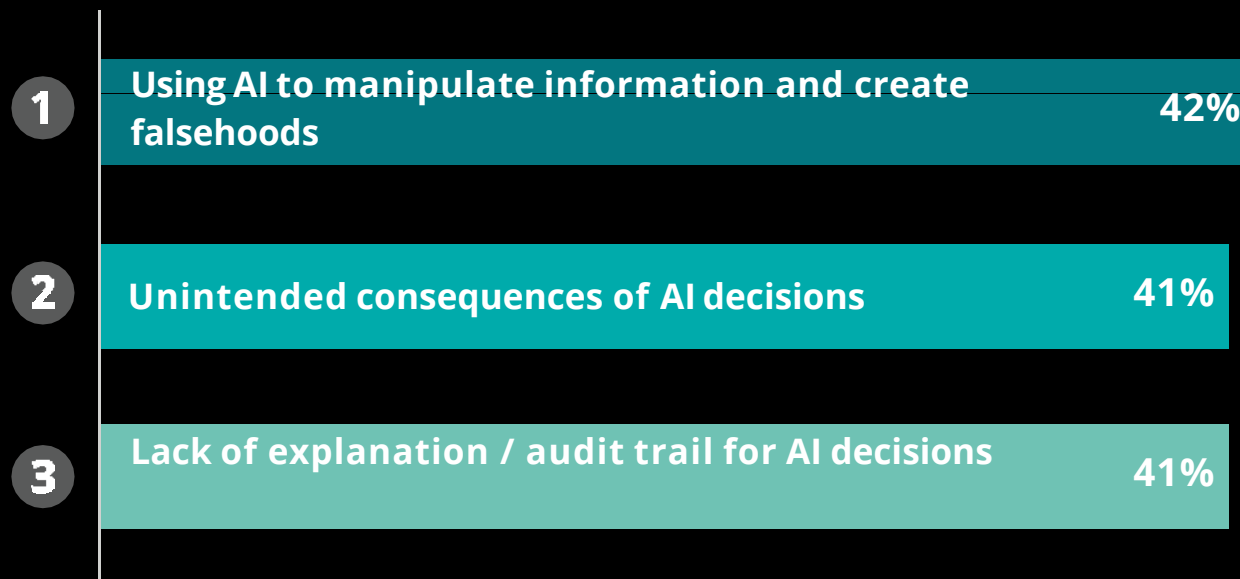
We spoke to organizations across Canada to learn more about these barriers



Lack of Trust

Businesses and consumers express concerns about the unintended consequences of AI adoption

Top 3 ethical risks of AI that concern Canadian early adopters

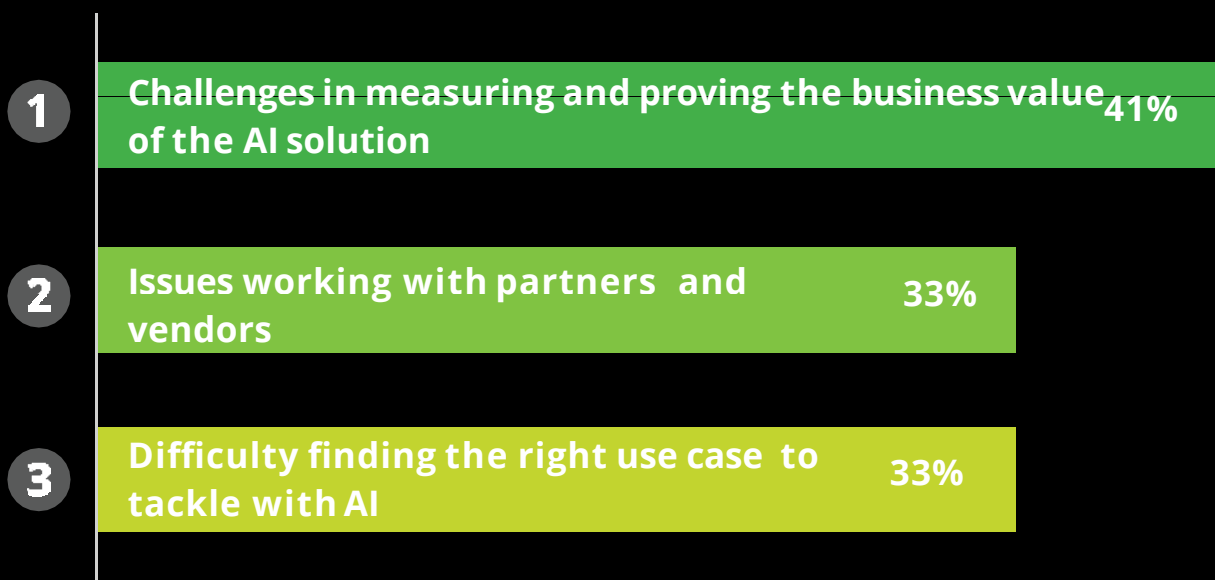




Low Awareness

Suppliers have difficulties proving the value of their AI solutions

Top 3 challenges reported by AI suppliers

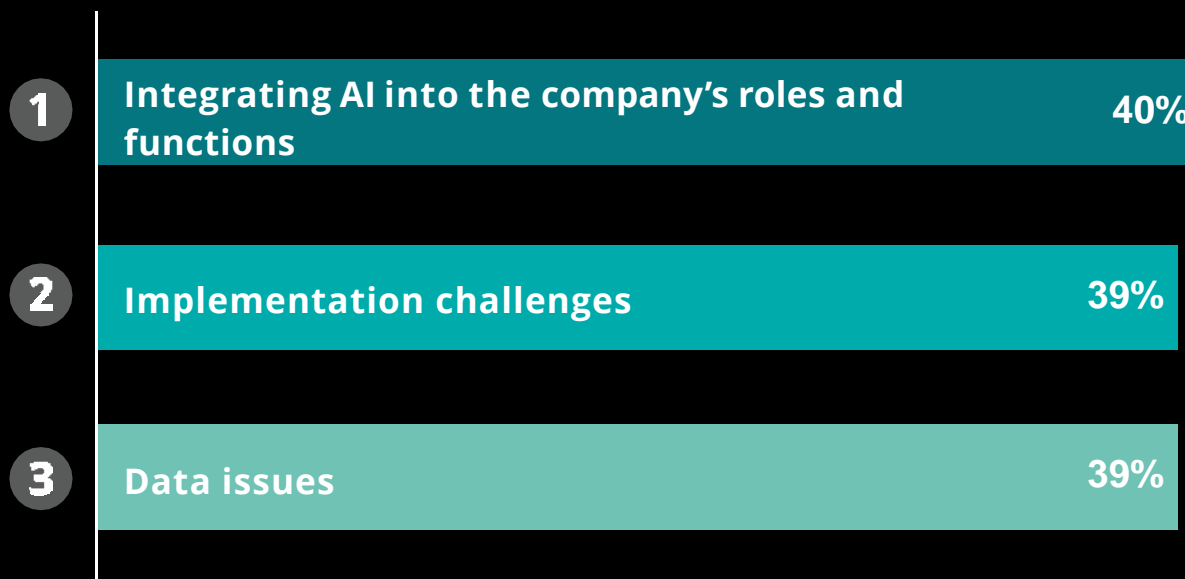




Inability to Scale

Organizations struggle to move from experimentation to full implementation




Top 3 challenges reported by AI early adopters






Defining Robotic Process Automation (RPA)



What RPA Is....

-  Computer-coded software
-  Programs that replace humans performing repetitive rules-based tasks
-  Cross-functional and cross-application macros

What RPA Is Not...

-  Walking, talking auto-bots
-  Physically existing machines processing paper
-  Artificial intelligence or voice recognition and reply software

The bots are coming!

Testing & Proving

Organizations focused on standing up RCA capabilities, including building Centres of Excellence, conducting pilots and developing strategies for Enterprise Scale

2017

Exponential Disruption

Convergence of robotics with artificial intelligence, connected devices, cloud computing, biometrics and other technologies driving large-scale, exponential disruption.

2019 +



2016

Understanding RPA

Organizations focused on understanding RCA and conducting small-scale Proof-of-Technology / Proof-of-Concept

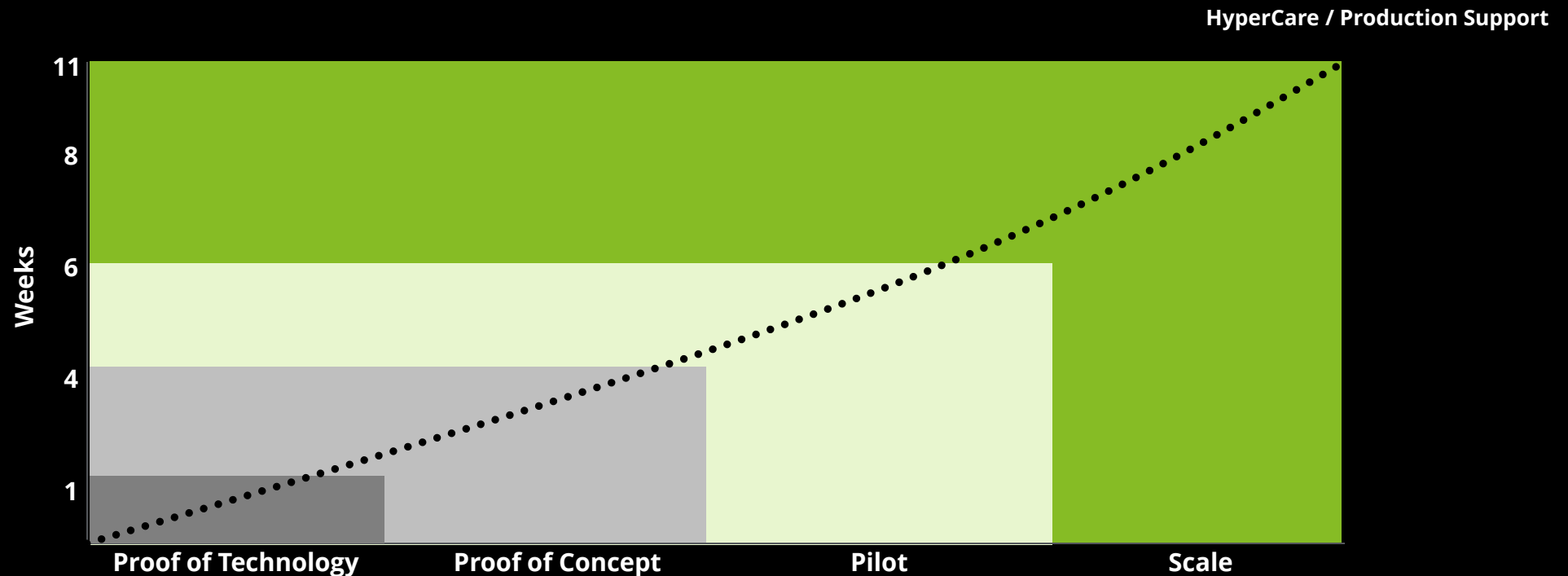
2018

Rapid Scaling

Rapid scaling of RCA capabilities and continued investment in more advanced technologies (e.g., Machine Learning, Chat Bots, etc.)

Robotics have become prominent across industries, with impact on workforce productivity and customer experience driving adoption at scale.

Organizations across industries are have shifted focus from proof to scale

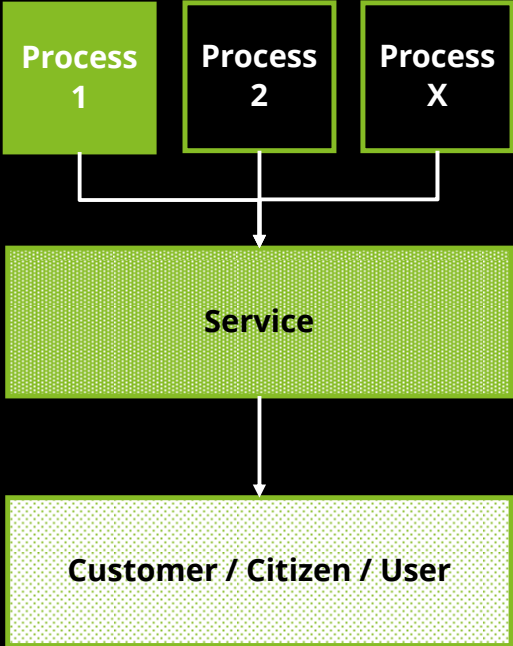


Lessons learned and new approaches have enabled organizations to focus on scale from the get-go

One way to scale RPA is to listen to the "voice of the customer"

Past Approach Bottom-Up

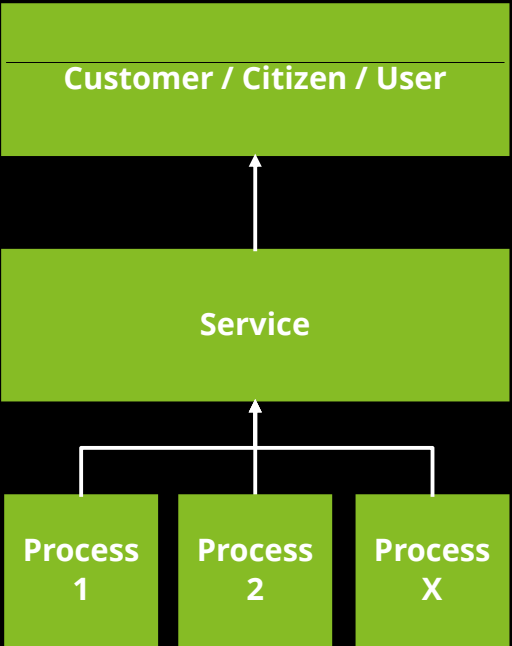
- 1 Find a process to automate
- 2 Uncertainty on how process improves service
- 3 Automation benefits don't reach end user



Automate one process with uncertain benefits realization

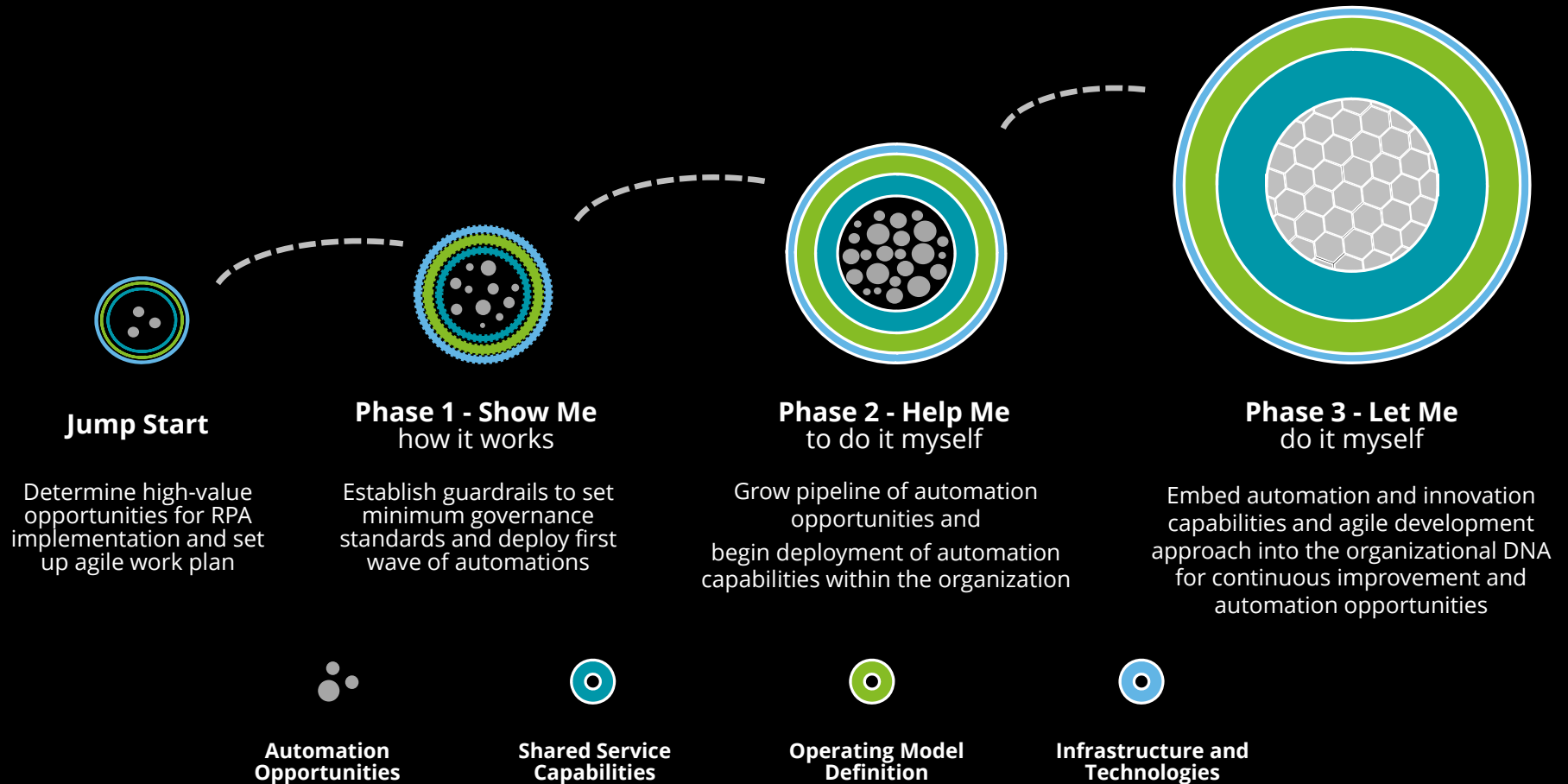
New Approach Top-Down

- 1 Document pain point
- 2 Identify service causing pain point
- 3 Improve enterprise-wide processes through automation to improve service



Realize benefits and scale enterprise automation

Getting started to realize benefits



ApowerManager

Reflector

Messages 14

Tuesday 20

Calendar

Camera

Maps

Clock

Weather

Notes

Reminders 1

App Store

iBooks

Health

Wallet

Settings

Messenger

33% [Battery Details](#)

X4008G5QG [More Details](#)

Contacts

Messages

Used: 12.2 GB / 14.9 GB

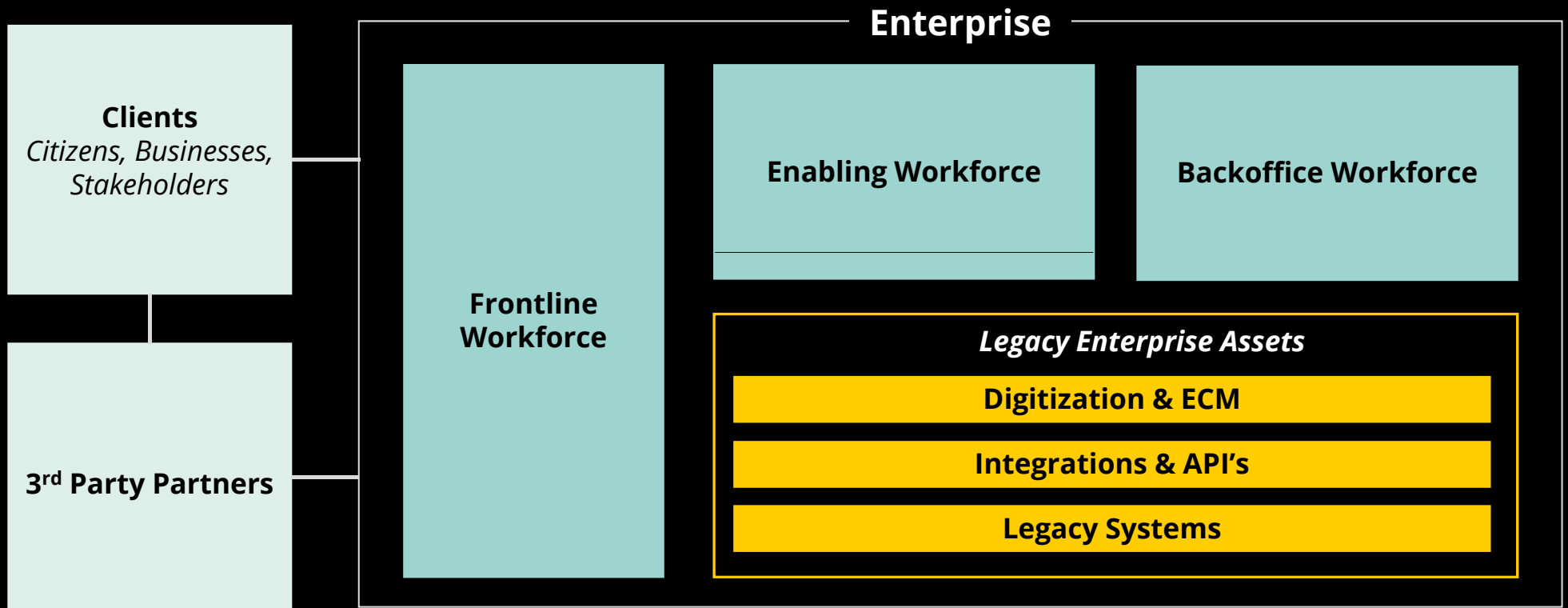
Apps: — Others: 11.8 GB

Prevent iTunes from auto-start

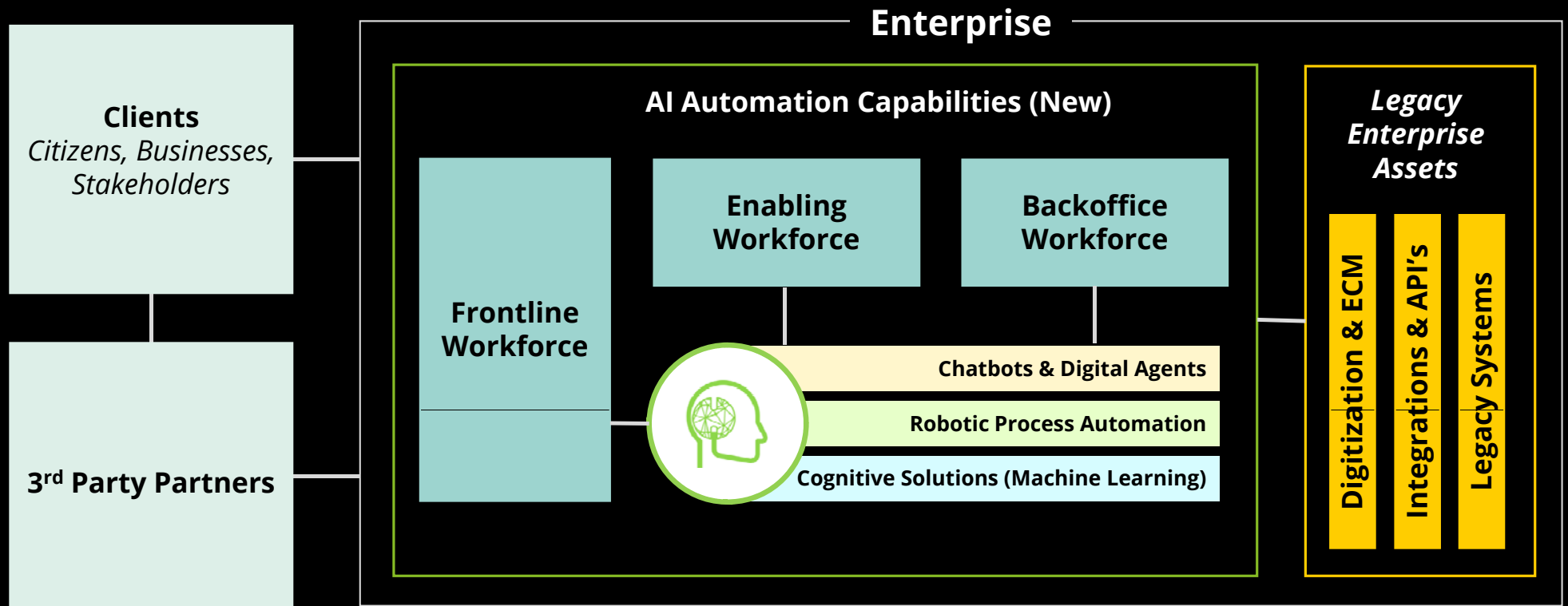
ceiline's iPhone



AI builds on existing talent and technical capabilities



Introducing AI capabilities into the enterprise landscape



To begin scaling AI, organizations must align on a strategy

Sample AI Strategies

Different organizations may aspire to be different things



AI-at-the-Centre



Ecosystem Integrator



Client/Citizen-Centric



Product-Service Innovator



Cost Leader

Characteristics

Who are our customers and beneficiaries?

What internal data is available?

What research needs to be completed?

How do we organize and what partnerships do we need?

What talent do we need and how are our employees impacted?

Artificial intelligence is coming full force to every corner of our lives. Luckily, we're prepared for this renewal.

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Paul Macmillan
pmacmillan@deloitte.ca