ISG Index™

FOURTH QUARTER 2019

Managed Services and As-a-Service Market Insights

HOSTED BY: JOSEPH FORESI OF CANTOR FITZGERALD

January 14, 2020

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Welcome

to the 69th Quarterly

ISG Index™

Steve Hall
Partner &
President ISG

Clay Calhoun
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Services

Chip Wagner
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Covering the State of the Combined Managed Services
& As-a-Service Industry for the Global Commercial Market

At a Glance

Global Combined Market

In 4Q19, Combined Market ACV was up 7% Y/Y; Managed Services was flat; SaaS boosted As-a-Service by 14%.

Americas

Combined Market dipped on mixed results; Managed Services' dropped 18% due to weak BPO and fewer large transactions; strong SaaS pushed As-a-Service up 14%.

EMEA

Combined Market ACV rose 25% Y/Y; several large deals in the U.K. and DACH strengthened Managed Services; As-a-Service ACV stayed in tight range.

Asia Pacific

Combined Market ACV edged up slightly Y/Y; Managed Services plummeted, but tempered by As-a-Service, which makes up nearly 80% of ACV.

* Managed Services, formerly called Traditional Sourcing, is defined as ITO/BPO, Infrastructure, ADM and Network markets, which we've always reported on.

Scorecard	**4Q19 ACV ($B)**	4Q Y/Y Change	**2019 Full Year ACV ($B)**	2019 Full Year Change
Global Commercial Combined Market	13.9	6.7%	55.7	10.3%
By Type				
Managed Services *	6.9	0.1%	27.7	1.6%
As-a-Service	7.0	14.2%	28.0	20.6%
By Region				
Americas Combined	6.7	-3.1%	27.9	8.0%
EMEA Combined	5.2	25.4%	19.0	9.9%
Asia Pacific Combined	2.0	2.3%	8.8	19.7%

Global Commercial Sector

Contracting Trends

- 4Q19 Combined Market up 7% Y/Y; fifth straight quarter over $13B.
- Best year ever in 2019 for Managed Services.
- In 2019, both As-a-Service market segments continue with double-digit growth rates.

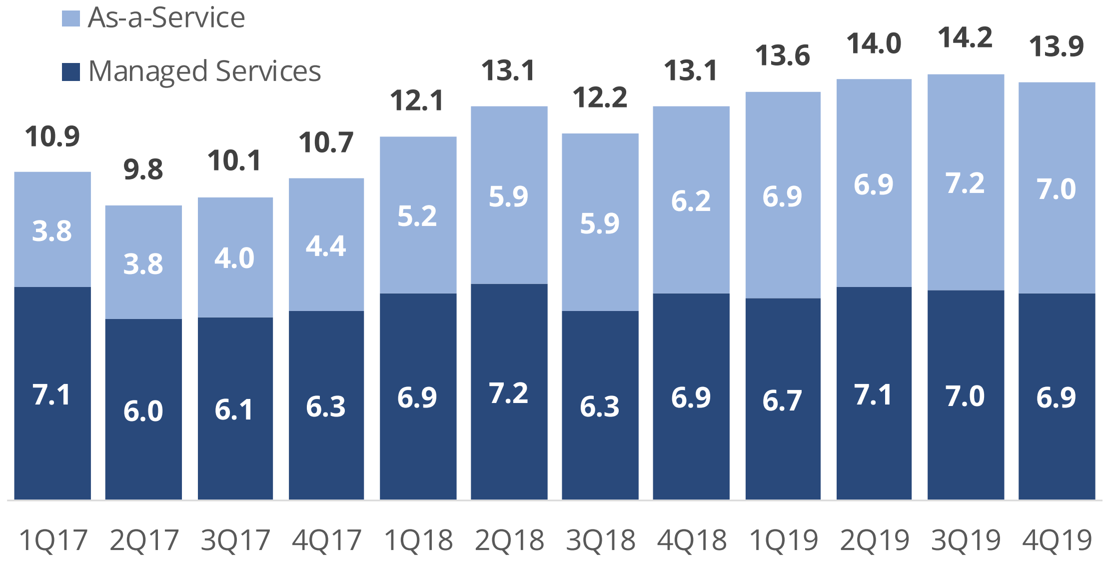
Combined Market ACV **10%** 2019 FY

Managed Services ACV **2%** 2019 FY

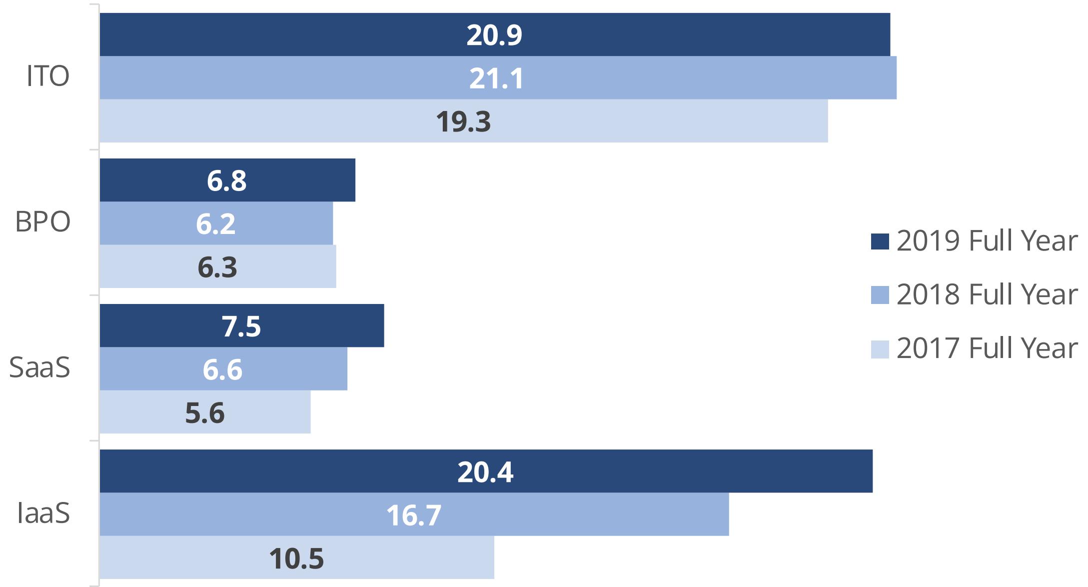
As-a-Service ACV **21%** 2019 FY

As-a-Service Market Ratio **50%** 2019 FY

Combined Market Quarterly ACV ($B)



Global Commercial Sector ACV by Function ($B)



Digital Trends in Managed Services

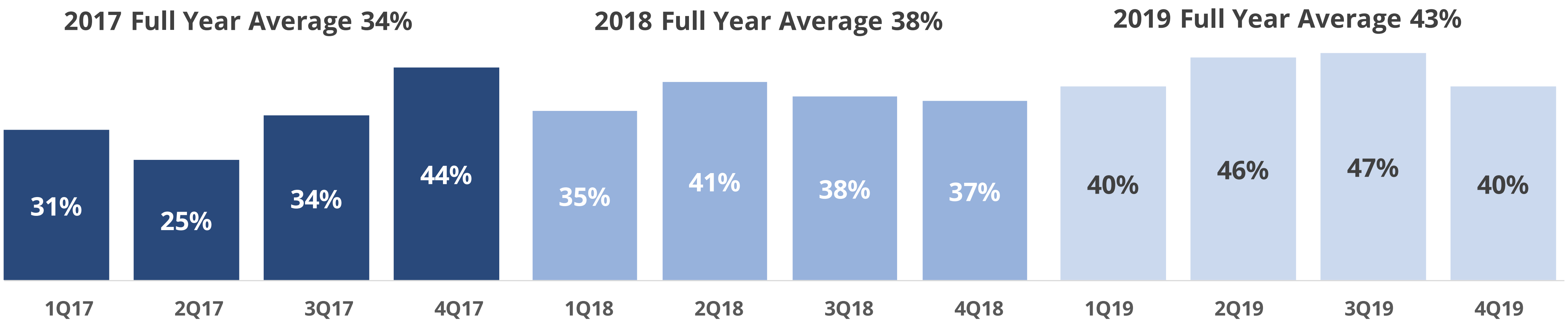
Contracting Trends

- During 2019, 43% of transactions awarded in the Broader Market have digital-based scope, and there is sizable growth potential going forward.
- Total ACV of deals with digital scope increased by 17% for the year; compares to overall decline of 8% for non-digital deals.

Key Performance Metrics

Average ACV Digital-based Award	**$18.3M** 2019 FY
Average ACV Change	**15%** 2019 FY
Growth of Broader Market Digital Awards (based on ACV)	**17%** 2019 FY

Managed Services: Percent of Broader Market Awards With Digital Scope (Based on ACV)



the ISG 15

Service & Technology Provider Standouts – GLOBAL

Our Contracts Knowledgebase™ is used to determine placements based on the annual value of commercial contracts awarded in the past 12 months.

The Big 15		The Building 15		The Breakthrough 15		The Booming 15	
Revenues > $10B		**Revenues $3B-$10B**		**Revenues $1B-$3B**		**Revenues <$1B**	
Managed Services Market							
Accenture	DXC Technology	Alight Solutions	HCL	Atento *	Mphasis	Birlasoft	Persistent Systems*
Atos *	IBM Global Services	Amdocs	Tech Mahindra	Axians	NS Solutions	CSG Systems *	Posco ICT
BT *	Infosys	Bechtle	Teleperformance	JLL	Sutherland	Ensono	Startek
Capgemini	NTT Data	Computacenter	T-Systems	LTI	Tieto	EXL *	WNS
Cognizant	TCS	*Genpact	Wipro	Mindtree	Unisys	NNIT A/S *	Zensar Technologies
				MITIE *	Virtusa		
As-a-Service Market							
Alibaba	Microsoft	Adobe Systems	United Internet	Athenahealth *		Atlassian	Flexential
Amazon Web Services	Salesforce	Equinix	Workday	Autodesk		CyrusOne	Hubspot *
Google		ServiceNow		Digital Realty		DocuSign	OVH

* New to leaderboard in 4Q19

Providers in alphabetical order; no rankings implied. Revenues sourced from D&B and individual company financial fillings.

Americas Commercial Sector

Contracting Trends

- 4Q19 Combined Market fell 3% Y/Y on softer Managed Services results.
- During 2019, ITO fell 1%; Applications fell slightly but infrastructure awards were up 6.5% on strong network activity.
- As-a-Service accounted for over 50% of Combined Market ACV for the first time ever.

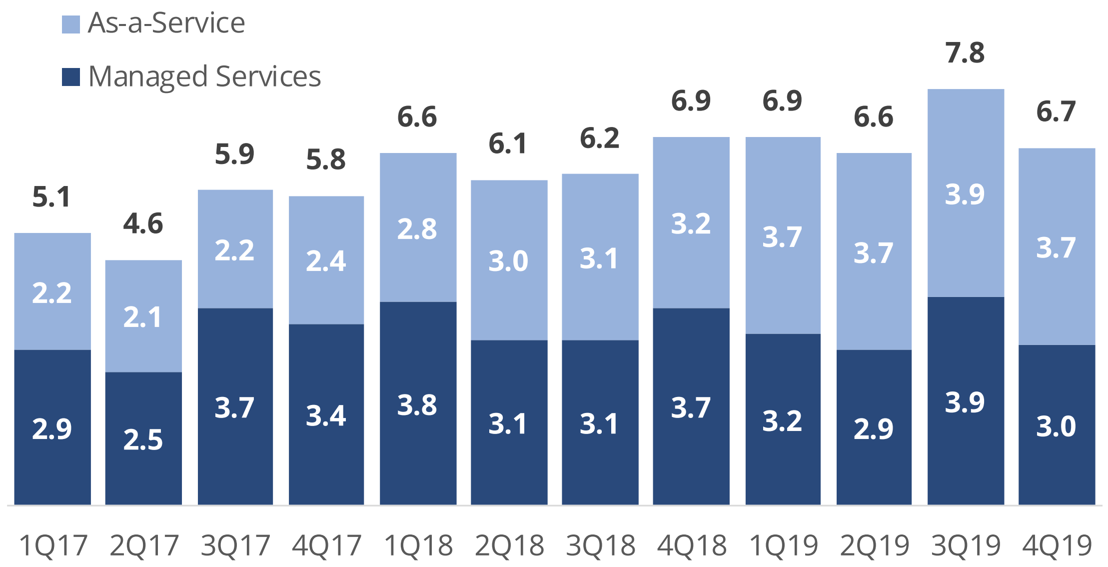
Combined Market ACV **8%** 2019 FY

Managed Services ACV **-5%** 2019 FY

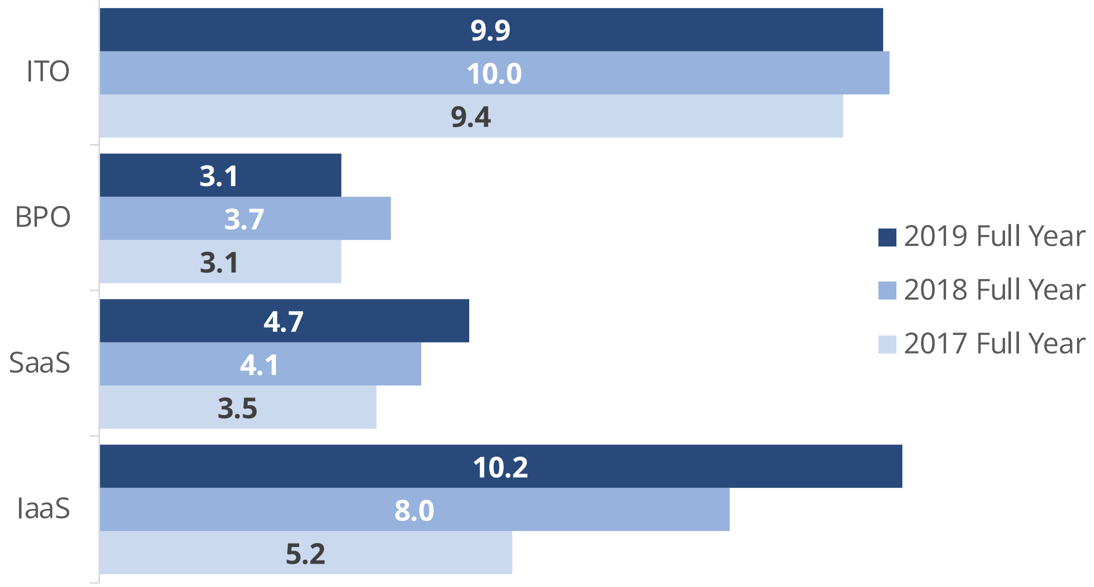
As-a-Service ACV **23%** 2019 FY

As-a-Service Market Ratio **53%** 2019 FY

Combined Market Quarterly ACV ($B)



Americas Commercial Sector ACV by Service Type ($B)



ISG Index™ 4Q19

Asia Pacific Commercial Sector

Contracting Trends

- 4Q19 Combined Market up 2% on strong as-a-service activity in China was offset by softer Managed Services activity.
- For the year, ITO had its best performance since 2014.
- Both SaaS and IaaS grew by over 20% in 2019.

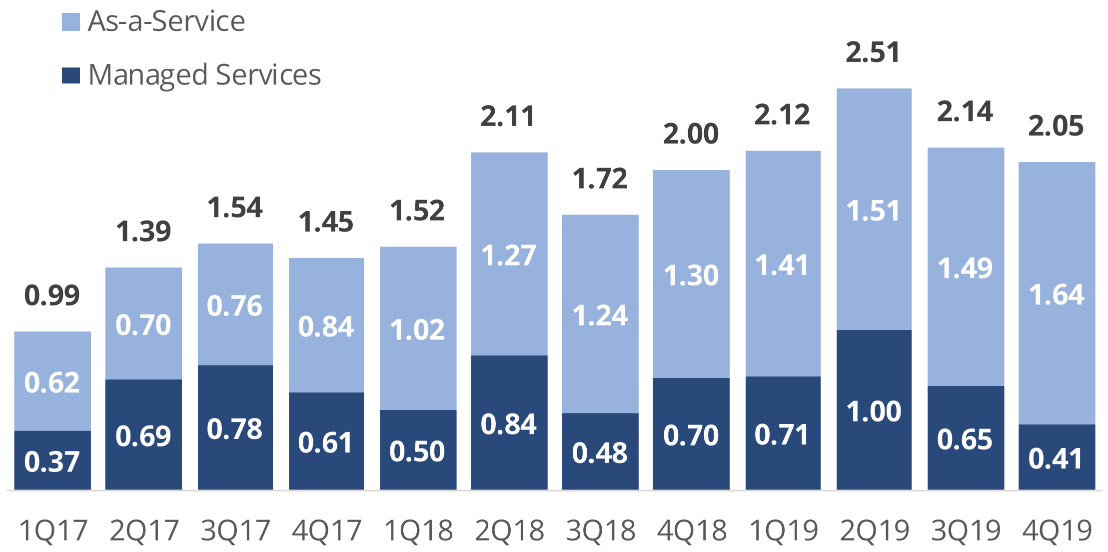
Combined Market ACV **20%** 2019 FY

Managed Services ACV **10%** 2019 FY

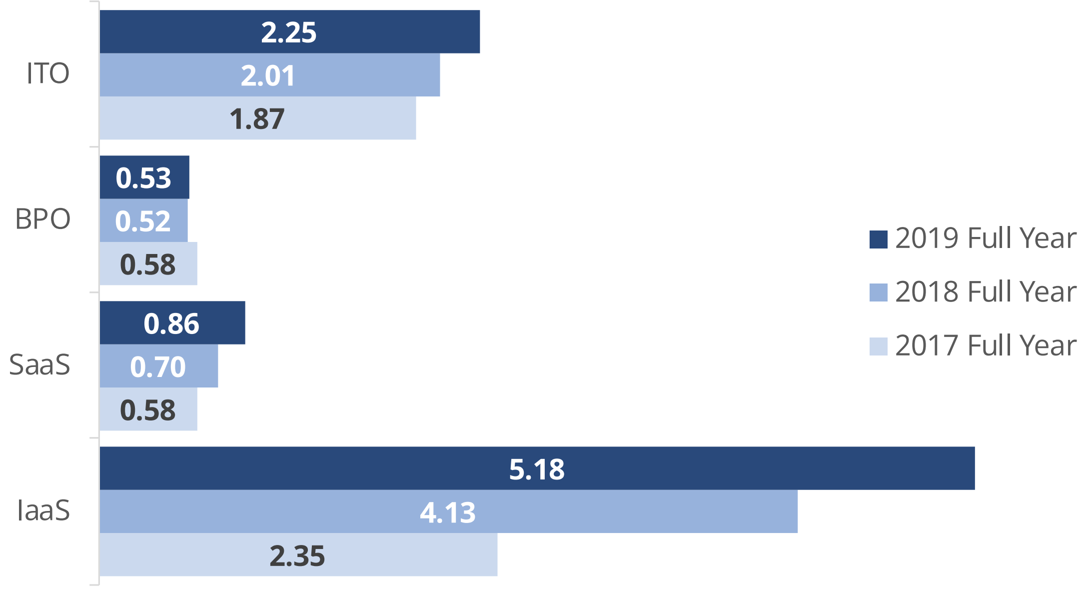
As-a-Service ACV **25%** 2019 FY

As-a-Service Market Ratio **69%** 2019 FY

Combined Market Quarterly ACV ($B)



Asia Pacific Commercial Sector ACV by Service Type ($B)



EMEA Commercial Sector

Contracting Trends

- 4Q19 was a record-setting quarter for Combined Market; only second time ever to surpass $5B in ACV.
- Strongest Managed Services result since 1Q17; UK and DACH both produced $1B fourth quarters.
- Close battle for market share developing between Microsoft Azure and AWS in public cloud infrastructure.

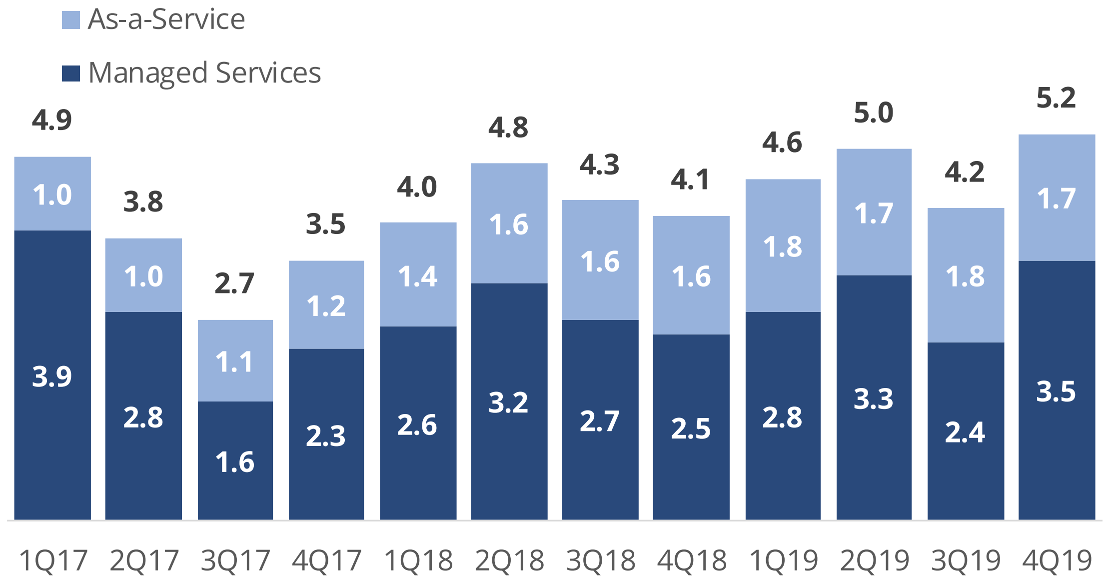
Combined Market ACV **10%** 2019 FY

Managed Services ACV **8%** 2019 FY

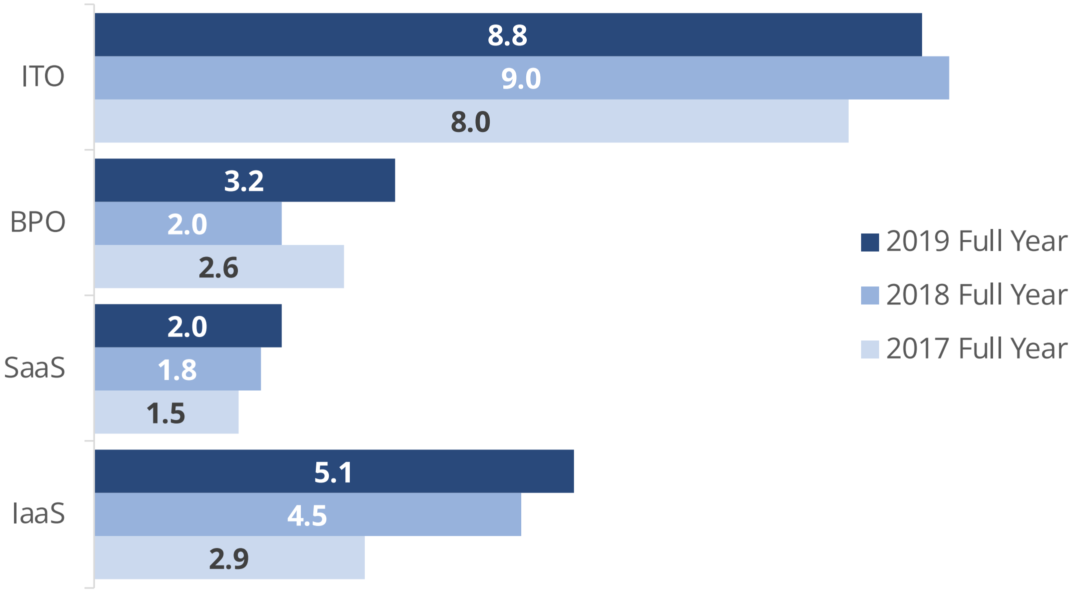
As-a-Service ACV **13%** 2019 FY

As-a-Service Market Ratio **37%** 2019 FY

Combined Market Quarterly ACV ($B)



EMEA Commercial Sector ACV by Service Type ($B)



Global Commercial Sector Industry Award Trends

2019 Full Year Growth	Global Market 2019 Full Year $55.7B ACV	Business Services $9.6B ACV	Retail & Consumer Packaged Goods $6.6B ACV	Energy $3.4B ACV	Financial Services $11.4B ACV	Healthcare & Pharma $5.7B ACV	Manufacturing $8.1B ACV	Telecom & Media $5.9B ACV	Travel, Transport Leisure $4.9B ACV
Combined Market	10%	14%	4%	-13%	7%	16%	8%	39%	14%
Managed Services	2%	-4%	-18%	-24%	0%	15%	-1%	64%	1%
As-a-Service	21%	19%	24%	20%	22%	17%	20%	12%	29%
Americas	8%	20%	-2%	-4%	3%	8%	-5%	31%	18%
EMEA	10%	0%	4%	-18%	14%	43%	1%	59%	13%
Asia Pacific	20%	14%	25%	-12%	-2%	18%	80%	26%	7%

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Emerging Trends in Banking & Financial Services

"There is an incredible amount of transformation going on in the banking business."

Owen Wheatley

Lead Partner – Banking & Financial Services

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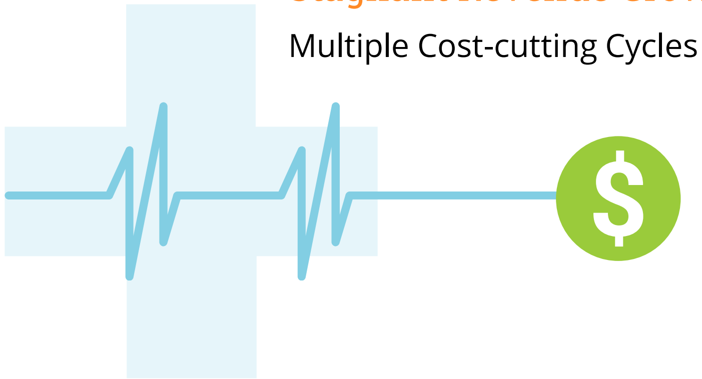
Banking and Financial Services – Macro Factors

Flatlining Revenues

Stagnant Revenue Growth

Multiple Cost-cutting Cycles



Regulatory Pressures

High Levels of Geographically Diverging Regulation

Focus on Supervision vs. New Rules

Customer Experience Is Key

Competition

Unprecedented Competition

Low Switching Costs

The Battle for Talent

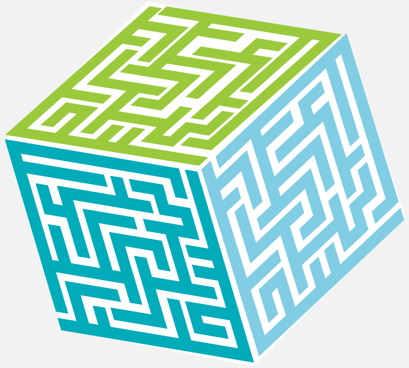
Identifying, Acquiring, & Retaining Talent Is CRUCIAL

Data Science, Innovation & Product Development Are Key Differentiators

Banking and Financial Services – Technology Trends

Customer Demands

Leveraging Existing Technology Effectively



Customer Centricity

Challenge of integrating systems, monetizing data & maintaining security, To ensure customer centricity

Develop Technology Roadmap to Create "Digital Mesh"

Newest Technology Tools

- RPA
- AI (Artificial Intelligence)
- Data Analytics
- Mass Personalization
- Online/Mobile Banking

Optimizing Data

- Chief Data Officer
- Organizational Change Management

Banking and Financial Services – Provider Implications

Resource, Talent &

R&D Capabilities

Vertical Industry
Expertise Is Mandatory

End-to-end
Platform Solutions

Proactively Partner
With Other Providers

Solutions Tie to Bank's
Business Challenges

Tie Fees to
Successful Solutions

Build

Operate

Transfer

Be Creative!

Banks want to hear your ideas and thoughts on innovation

ISG Index™ Insider

> *Automation of knowledge work is going to have a large impact on the overall economy during the next couple of decades*

4Q19 ISG Index™ Inside Track from

ISG Insights™

Chip Wagner

Chief Executive Officer, ISG Automation

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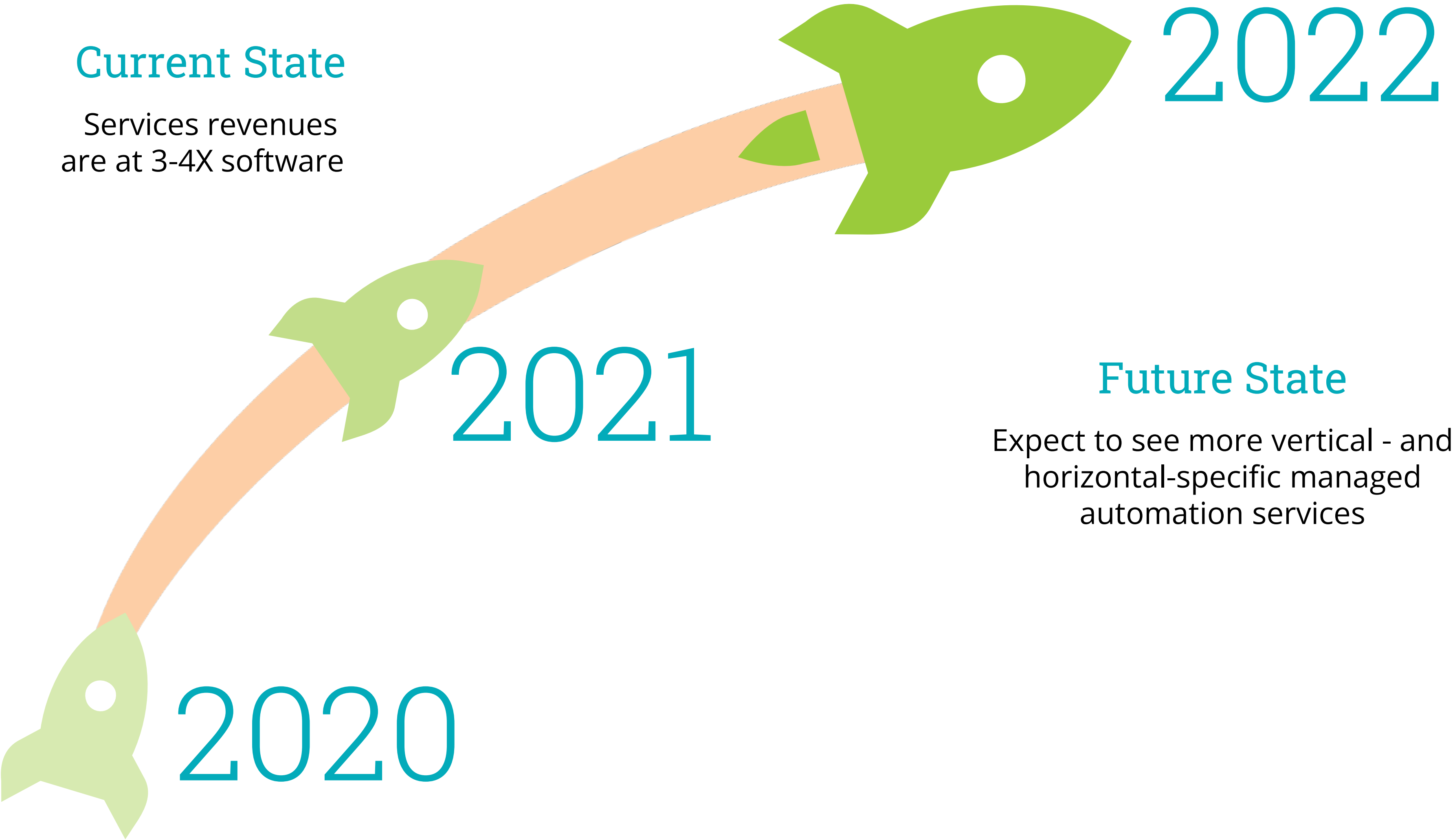
Explosive Growth in RPA Software Market

UI Path
Raised $1B
Total Valuation $8B

Automation Anywhere
Raised over $840M
Nearly $7B valuation

Blue Prism
Went public 2016
Market Cap of $1.1B US

Current State
Services revenues are at 3-4X software



Future State
Expect to see more vertical - and horizontal-specific managed automation services

Breaking Through the RPA Wall

70% Companies have implemented RPA

59% Companies automated less than 20 processes

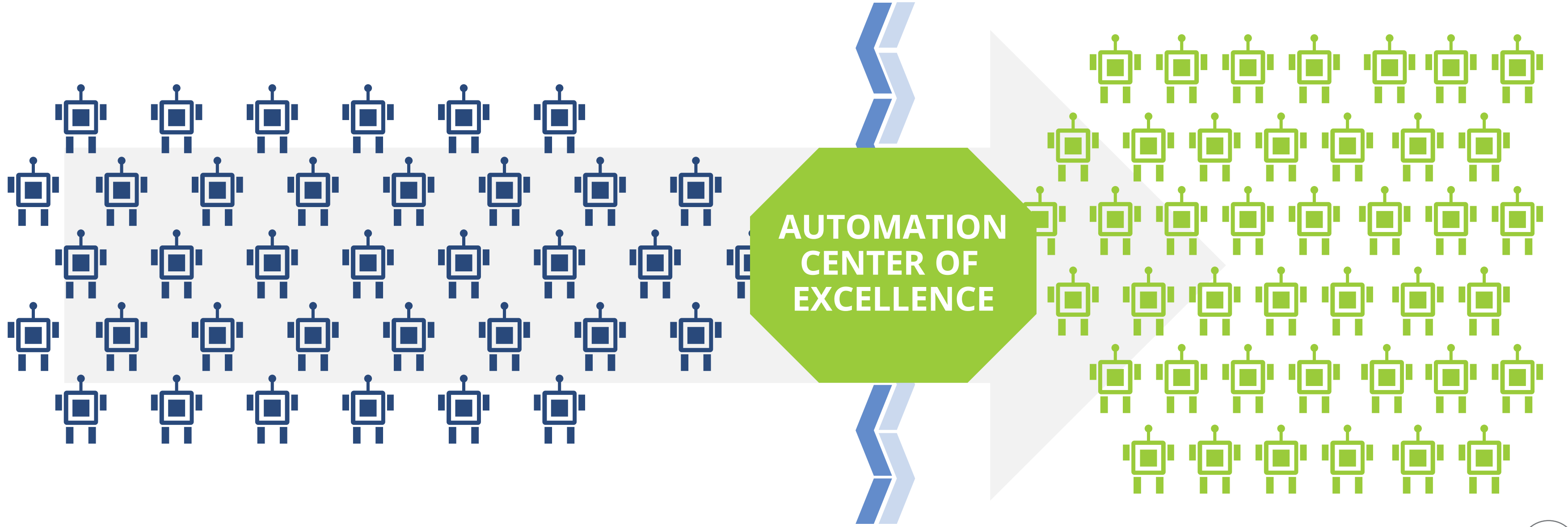
12% Automated 50 or more processes

Average Utilization of BOTS Is Only

44%

An Effective Automation Center of Excellence

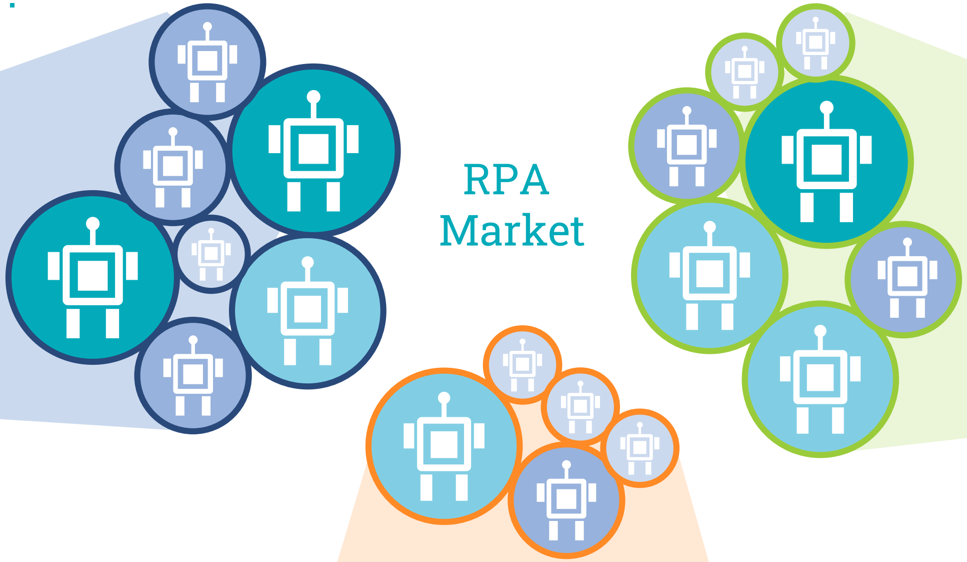
Defines strategy and operating model, lays the foundation for building and supporting bots and establishes metrics and reporting standards



Implications: RPA Software and Managed Services Providers

Existing RPA companies can . . .

- Be bought by a big software company
- Stay private
- Do an IPO

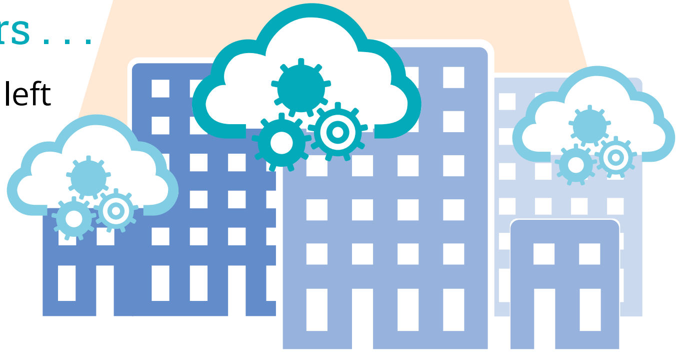


Big software companies . . .

- New to the market, they have resources, customer base and expertise in product introduction
- Can they produce new product and catch up? Yes

BPO/ITO Providers . . .

- Will take whatever is left



4Q 2019 ISG Index – Summary and Outlook

2019 Summary

Combined Market
Combined Market had healthy growth; 2% gain in Managed Services; 21% increase in As-a-Service.

Managed Services
Managed Services achieved highest ever annual results at $27.7B globally, however, we continue to observe variability in contract award activity each quarter.

Digital-based ACV grew at 17%, outperforming the overall Broader Market.

As-a-Service
All three regions reached new highs; IaaS showed inconsistent growth rates.

2020 Outlook

Services Market Forecast
Largest service providers are rebalancing strategies; watch to see who will choose digital-led transactions, and who will pursue legacy deal flow.

3.2%
FY 2020

As-a-Service Market Forecast
AWS and Microsoft battle for market share supremacy in Europe; watch what will happen as China-based providers and Google Cloud expand beyond their comfort zones.

23.5%
FY 2020

Want to Ask a Question?

1. Click the "Listen by Phone" button.
2. The phone number and passcode will appear, and the web streaming to your computer will be automatically muted.
3. After you dial in, the operator will ask you for your name and company.
4. Now press *1 to be added to the queue.

Your Webcast Screen

Like to Learn More?

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Appendix

TECHNOLOGY PROVIDER STANDOUTS

4Q/Full Year 2019 TCV Scorecard

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the ISG 15

Service & Technology Provider Standouts – AMERICAS

Our Contracts Knowledgebase™ is used to determine placements based on the annual value of commercial contracts awarded in the past 12 months.

The Big 15	The Building 15	The Breakthrough 15	The Booming 15
Revenues > $10B	**Revenues $3B-$10B**	**Revenues $1B-$3B**	**Revenues <$1B**
Managed Services Market			
Accenture AT&T * Capgemini CBRE Cognizant DXC Technology IBM Global Services Infosys NTT DATA TCS	Alight Solutions* Amadeus * Amdocs * Concentrix HCL OptumInsight Tech Mahindra Teleperformance * Wipro	Atento Athenahealth* EPAM Systems JLL LTI Mindtree * Mphasis Sutherland * Sykes TTEC Unisys Virtusa WEX *	Birlasoft CSG Systems Ensono EXL Persistent Systems* Startek WNS Global Services Zensar Technologies
As-a-Service Market			
Amazon Web Services Google Microsoft Salesforce SAP	Adobe Systems Equinix Paychex * ServiceNow SS&C Technologies Workday	Autodesk Digital Realty	CeridianHCM * CyrusOne Docusign * Flexential Paycom Proofpoint RingCentral

* New to leaderboard in 4Q19

Providers in alphabetical order; no rankings implied. Revenues sourced from D&B and individual company financial fillings.

Service & Technology Provider Standouts – EMEA

Our Contracts Knowledgebase™ is used to determine placements based on the annual value of commercial contracts awarded in the past 12 months.

	The Big 15	The Building 15	The Breakthrough 15	The Booming 15
	Revenues > $10B	**Revenues $3B-$10B**	**Revenues $1B-$3B**	**Revenues <$1B**
Managed Services Market	Accenture Atos BT Capgemini CBRE Cognizant DXC Technology IBM Global Services Infosys ISS Global A/S TCS	Alight Solutions * Amdocs Bechtle Computacenter HCL Orange Business Services SopraSteria Tech Mahindra Teleperformance T-Systems Wipro	Alten Altran Asseco * Axians Cancom Fiducia IT AG Finanz Informatik GFI Informatique JLL LTI MITIE Tieto Unisys Webhelp	Allgeier SE Comarch Datagroup AG Devoteam EXL * Fastweb * HGS * NNIT A/S QIWI QuEST Global Reply SpA SVA System Vertrieb Alexander GmbH WNS
As-a-Service Market	Amazon Web Services Google Microsoft SAP	Adobe Systems Equinix United Internet VMWare *	Autodesk	OVH

* New to leaderboard in 4Q19

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Service & Technology Provider Standouts – Asia Pacific

Our Contracts Knowledgebase™ is used to determine placements based on the annual value of commercial contracts awarded in the past 12 months.

The Big 15		The Building 15		The Breakthrough 15		The Booming 15	
Revenues > $10B		**Revenues $3B-$10B**		**Revenues $1B-$3B**		**Revenues <$1B**	
Managed Services Market							
Accenture Cognizant DXC Technology Fujitsu	Hitachi IBM Global Services Infosys NTT Data TCS	Amadeus * Amdocs Genpact HCL ITOCHU Techno-Solutions Nomura Research Institute	Sabre Samsung SDS Sodexo Tech Mahindra Telstra TIS Intec Wipro Limited	Digital China JLL Mphasis Neusoft * Nihon Unisys	NS Solutions SCSK Sutherland transcosmos Unisys	21Vianet Group * Beyondsoft ChinaSoft Fuji Soft PLDT	Posco ICT Relia Shinsegae I&C Taiji Computer WNS
As-a-Service Market							
Alibaba Amazon Web Services China Telecom *	Google Microsoft Tencent	Adobe Systems Equinix		Autodesk Digital Realty * PTC Sage Teradata *		Atlassian Automation Anywhere * Kingdee	Veeva Systems Xero

* New to leaderboard in 4Q19

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4Q/2019 TCV Scorecard

The ISG Index has moved to TCV as the primary measure of the broader market.
We will continue to provide a high-level TCV view of the market via a scorecard analysis.

Scorecard

	4Q19 TCV ($B)*	4Q Year-to-Year Change	2019 Full Year TCV ($B)*	Year-to-Year Change
Global Commercial Combined Market	33.8	8%	135.5	9%
By Type				
Managed Services	22.4	3%	92.5	6%
As-a-Service	11.3	20%	43.1	19%
ITO	14.5	9%	66.5	5%
BPO	8.0	-6%	26.0	6%
IaaS	4.8	8%	20.4	23%
SaaS	6.5	31%	22.6	15%
By Region				
Americas Combined	14.8	-13%	62.0	-2%
EMEA Combined	15.7	52%	56.0	20%
Asia Pacific Combined	3.4	-15%	17.5	24%

*Contracts with TCV ≥ $25M from the ISG Contracts Knowledgebase™

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