

Virtual Digital Assistants for Enterprise Applications Report

Part of the AI & Intelligent Automation
Service Area Package

Aditya Kaul, Research Director
Mark Beccue, Principal Analyst

Published On 4Q2019

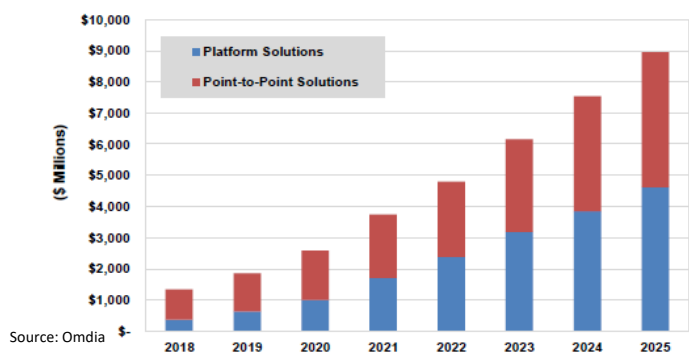
Virtual Agents, Chatbots, and Virtual Assistants for Enterprise Markets Utilizing Artificial Intelligence, Natural Language Processing, and Conversational User Interfaces

More than 10 years ago, companies seeking efficiencies and automation for customer service began experimenting with applications that leveraged natural language processing (NLP). By early 2016, significant advances in combining NLP with other forms of artificial intelligence (AI), primarily machine learning (ML) and deep learning (DL), began to make enterprise virtual digital assistants (VDAs) more intelligent and useful. These advancements and other market factors have expanded the use cases for enterprise AI-driven VDAs beyond customer service & marketing. Omdia has identified three other use cases where significant direct software revenue will be generated for enterprise VDAs: e-commerce & sales, business applications, and healthcare.

Over the next 3 to 5 years, natural language (NL) AI will continue to improve and sentiment and emotion recognition AI will evolve. VDAs will become an increasingly significant interface enterprises can use for both externally-facing and internally-facing purposes. Externally-facing use cases include handling customer service, marketing, and commerce transactions, while internally-facing use cases include running enterprise application software, productivity and collaboration applications, and administration functions. Omdia expects strong growth in enterprise VDA software revenue, which is forecast to increase from \$1.3 billion in 2018 to more than \$8.9 billion in 2025.

This Omdia report examines the market and technology issues surrounding enterprise VDAs and presents profiles for key industry players throughout the ecosystem. It analyzes how enterprise VDAs will be used across multiple channels in four key use cases: customer service & marketing, e-commerce & sales, business applications, and healthcare VDAs. Omdia also presents global market forecasts for enterprise VDA software, segmented by region, solution type, and use case, covering the period from 2018 through 2025.

Enterprise VDA Software Revenue by Solution Type, World Markets: 2018-2025



Report Coverage

KEY ISSUES ADDRESSED	KEY MARKET FORECASTS	COVERAGE	APPLICABLE TO	
<ul style="list-style-type: none"> • What is the current state of the global enterprise virtual digital assistant (VDA) market and how will it develop over the next decade? • Which use cases will drive greater enterprise VDA adoption? • What are the most significant drivers of market growth and the major challenges faced by the industry? • Which companies are the key players in the enterprise VDA market? • What is the size of the global enterprise VDA software market opportunity? 	<ul style="list-style-type: none"> • Enterprise VDA Software Revenue by Solution Type, World Markets: 2018-2025 • Enterprise VDA Software Revenue Share by Use Case, World Markets: 2025 • Enterprise VDA Software Revenue by Use Case, World Markets: 2018-2025 • Enterprise VDA Software Revenue by Region, World Markets: 2018-2025 • Enterprise AI-Driven VDA Software Revenue as a Percentage of Point-to-Point Vendor Revenue by Use Case, World Markets: 2018 	<ul style="list-style-type: none"> • Enterprise AI-Driven VDA Software Revenue as a Percentage of Point-to-Point Vendor Revenue by Use Case, World Markets: 2025 • Enterprise VDA Software Platform Revenue Share by Use Case, World Markets: 2018 • Enterprise VDA Software Platform Revenue Share by Use Case, World Markets: 2025 <p>Regions</p> <ul style="list-style-type: none"> • North America • Europe • Asia Pacific • Latin America • Middle East and Africa 	<p>Technologies</p> <ul style="list-style-type: none"> • Natural Language Processing • Natural Language Understanding • Artificial Intelligence • Machine Learning • Deep Learning • Speech and Voice Recognition • Conversational User Interfaces <p>End Applications User Markets/</p> <ul style="list-style-type: none"> • Customer Service & Marketing • E-Commerce & Sales • Business Applications • Healthcare 	<ul style="list-style-type: none"> • Customer experience-focused enterprises • Customer experience solutions providers • Enterprise application software providers • Healthcare ecosystem players • Retail industry players • Customer service-focused enterprises • Customer service solutions providers • Brand marketers and advertisers

CONNECT WITH US

CUSTOMER SUCCESS


customersuccess@omdia.com

SALES

US: +1 (212) 652 5335

APAC: +61 (0)396 016 700

EMEA: +44 (0)7771 980 316

 @OmdiaHQ | omdia.com

ABOUT OMDIA

Omdia is a global technology research powerhouse, established following the merger of the research division of Informa Tech (Ovum, Heavy Reading, and Tractica) and the acquired Omdia technology research portfolio.* We combine the expertise of more than 400 analysts across the entire technology spectrum, covering 150 markets. We publish over 3,000 research reports annually, reaching more than 14,000 subscribers, and cover thousands of technology, media, and telecommunications companies. Our exhaustive intelligence and deep technology expertise enable us to uncover actionable insights that help our customers connect the dots in today's constantly evolving technology environment and empower them to improve their businesses—today and tomorrow.

*The majority of Omdia technology research products and solutions were acquired by Informa in August 2019 and are now part of Omdia.

Table of Content

1. Executive Summary

- 1.1. Introduction
- 1.2. Market Drivers
- 1.3. Market Barriers
- 1.4. Market Trends
- 1.5. Market Forecast Highlights

2. Market Issues

- 2.1. Introduction
- 2.2. Market Overview
- 2.3. Market Drivers
 - 2.3.1. Reducing Costs, Increasing Efficiencies
 - 2.3.2. Meeting End-User Expectations for Control, Speedy Resolution, and Personal Context
- 2.4. Market Barriers
 - 2.4.1. Effectiveness
 - 2.4.2. Fear of Failure
- 2.5. Market Trends
 - 2.5.1. The Emergence of Webscale Platforms
 - 2.5.2. Healthcare VDA Momentum Slows
 - 2.5.3. Business Applications and

Emergence of Enterprise Software Giants

3. Use Cases

- 3.1. Introduction
- 3.2. Customer Service & Marketing
 - 3.2.1. Multiple Signs of Maturity
 - 3.2.2. Channel Wars: Voice, Digital, Both?
 - 3.2.3. Hybrid-Live Solutions
 - 3.2.4. Agent Assist Emerges
- 3.3. E-Commerce & Sales
- 3.4. Business Applications
 - 3.4.1. Productivity and Collaboration
 - 3.4.2. Workflow and Project Management
 - 3.4.3. Automated Job Recruiting
- 3.5. Healthcare

3.5.1. Physician VDAs

4. Technology Issues

- 4.1. Underlying Technologies
- 4.2. Definition of AI
- 4.3. Machine Learning

4.4. Deep Learning

4.5. Natural Language Processing

4.5.1. Importance of Machine and Deep Learning to

Natural Language Processing

4.5.2. Natural Language Processing Market Drivers

4.5.2.1. User Interface Technology for New

Computing Platforms

4.5.2.2. The Failure of Big Data

4.5.3. Natural Language Processing Market Barriers

4.5.3.1. Understanding Context

4.5.3.2. Need for Accurate Data

4.5.4. Understanding Natural Language: Word Maps

and Language Models

4.5.5. Natural Language Generation

4.5.6. Legacy Approaches to Natural Language

Processing

4.5.6.1. Rules-Based

4.5.6.2. Statistical Models

5. Key Industry Players

- 5.1. Introduction
- 5.2. Alterra.ai
- 5.3. Amazon
- 5.4. Artificial Solutions
- 5.5. Cognicor
- 5.6. Creative Virtual
- 5.7. CX Company
- 5.8. Flamingo Ai
- 5.9. Google
- 5.10. Interactions
- 5.11. IPsoft
- 5.12. Kore.ai
- 5.13. LivePerson
- 5.14. Microsoft
- 5.15. Mya Systems
- 5.16. NoteSwift
- 5.17. Nuance
- 5.18. Oracle
- 5.19. Pypestream
- 5.20. SAP
- 5.21. SmartAction
- 5.22. Smartsheet
- 5.23. Synthetix
- 5.24. Woebot
- 5.25. Other Industry Players

6. Market Forecasts

- 6.1. Forecast Methodology
- 6.2. Total Enterprise VDA Software Revenue
- 6.3. Enterprise VDA Software Revenue by Use Case
- 6.4. Enterprise VDA Software Revenue by Region
- 6.5. Enterprise AI-Driven VDA Software Revenue as a Percentage of Point-to-Point Vendor Revenue
- 6.6. Enterprise VDA Software Platform Revenue Share
- 6.7. Conclusions and Recommendations
- 7. Company Directory
- 8. Acronym and Abbreviation List
- 9. Table of Contents
- 10. Table of Charts and Figures
- 11. Scope of Study, Sources and Methodology, Notes

CONNECT WITH US

CUSTOMER SUCCESS


customersuccess@omdia.com

SALES

US: +1 (212) 652 5335

APAC: +61 (0)396 016 700

EMEA: +44 (0)7771 980 316

 @OmdiaHQ | omdia.com

ABOUT OMDIA

Omdia is a global technology research powerhouse, established following the merger of the research division of Informa Tech (Ovum, Heavy Reading, and Tractica) and the acquired Omdia technology research portfolio.* We combine the expertise of more than 400 analysts across the entire technology spectrum, covering 150 markets. We publish over 3,000 research reports annually, reaching more than 14,000 subscribers, and cover thousands of technology, media, and telecommunications companies. Our exhaustive intelligence and deep technology expertise enable us to uncover actionable insights that help our customers connect the dots in today's constantly evolving technology environment and empower them to improve their businesses—today and tomorrow.

*The majority of Omdia technology research products and solutions were acquired by Informa in August 2019 and are now part of Omdia.

Tables

- Enterprise VDA Software Revenue by Region, World Markets: 2018-2025
- Enterprise VDA Software Revenue by Solution Type, World Markets: 2018-2025
- Enterprise VDA Software Revenue by Use Case, World Markets: 2018-2025
- Enterprise VDA Software Revenue by Use Case and Solution Type, World Markets: 2018-2025
- Enterprise VDA Software Revenue, Customer Service & Marketing Use Case, World Markets: 2018-2025
- Enterprise VDA Software Revenue, E-Commerce & Sales Use Case, World Markets: 2018-2025
- Enterprise VDA Software Revenue, Business Applications Use Case, World Markets: 2018-2025
- Enterprise VDA Software Revenue, Healthcare Use Case, World Markets: 2018-2025
- Enterprise VDA Software Revenue by Industry, World Markets: 2018-2025
- Enterprise AI-Driven VDA Software Revenue as a Percentage of Point-to-Point Vendor Revenue by Use Case, World Markets: 2018-2025
- Enterprise VDA Software Platform Revenue Share by Use Case, World Markets: 2018-2025
- Other Industry Participants

CONNECT WITH US

CUSTOMER SUCCESS


customersuccess@omdia.com

SALES

US: +1 (212) 652 5335

APAC: +61 (0)396 016 700

EMEA: +44 (0)7771 980 316

 @OmdiaHQ | omdia.com

ABOUT OMDIA

Omdia is a global technology research powerhouse, established following the merger of the research division of Informa Tech (Ovum, Heavy Reading, and Tractica) and the acquired Omdia technology research portfolio.* We combine the expertise of more than 400 analysts across the entire technology spectrum, covering 150 markets. We publish over 3,000 research reports annually, reaching more than 14,000 subscribers, and cover thousands of technology, media, and telecommunications companies. Our exhaustive intelligence and deep technology expertise enable us to uncover actionable insights that help our customers connect the dots in today's constantly evolving technology environment and empower them to improve their businesses—today and tomorrow.

*The majority of Omdia technology research products and solutions were acquired by Informa in August 2019 and are now part of Omdia.

Charts & Figures

- Cloud Robotics Revenue and Shipments, World Markets: 2018-2025
- Cloud Robotics Revenue by Type, World Markets: 2018-2025
- Cloud Robotics Revenue by Industry, World Markets: 2018-2025
- Cloud Robotics Penetration Rate by Industry, World Markets: 2018-2025
- Cloud Robotics Shipments by Industry, World Markets: 2018-2025
- Industrial Cloud Robotics Revenue by Type, World Markets: 2018-2025
- Enterprise Cloud Robotics Revenue by Type, World Markets: 2018-2025 (Includes Commercial UAVs and Commercial AVs)
- Military Cloud Robotics Revenue by Type, World Markets: 2018-2025
- Consumer Cloud Robotics Revenue by Type, World Markets: 2018-2025 (Includes Consumer UAVs and Consumer AVs)
- UAV Cloud Robotics Revenue by Type, World Markets: 2018-2025
- AV Cloud Robotics Revenue by Type, World Markets: 2018-2025


Figures

- Microsoft 2018 State of Global Customer Service Report - Customer Experience
- Microsoft 2018 State of Global Customer Service Report – Channel Preference
- Vision for Business Application VDAs
- ESNEFT Vision for Automating Referrals
- AI Encompasses Numerous Technologies
- Schematic Representation of a Deep Neural Network
- Examples of Word Embeddings
- Progression of Natural Language Generation
- Visualizing Amazon Lex and Other Amazon Solutions for Contact Center
- Google Dialogflow Developer Adoption

CONNECT WITH US

CUSTOMER SUCCESS
customersuccess@omdia.com

SALES
 US: +1 (212) 652 5335
 APAC: +61 (0)396 016 700
 EMEA: +44 (0)7771 980 316

 @OmdiaHQ | omdia.com

ABOUT OMDIA

Omdia is a global technology research powerhouse, established following the merger of the research division of Informa Tech (Ovum, Heavy Reading, and Tractica) and the acquired Omdia technology research portfolio.* We combine the expertise of more than 400 analysts across the entire technology spectrum, covering 150 markets. We publish over 3,000 research reports annually, reaching more than 14,000 subscribers, and cover thousands of technology, media, and telecommunications companies. Our exhaustive intelligence and deep technology expertise enable us to uncover actionable insights that help our customers connect the dots in today's constantly evolving technology environment and empower them to improve their businesses—today and tomorrow.

*The majority of Omdia technology research products and solutions were acquired by Informa in August 2019 and are now part of Omdia.