

# SESTEK

Conversational Automation Company

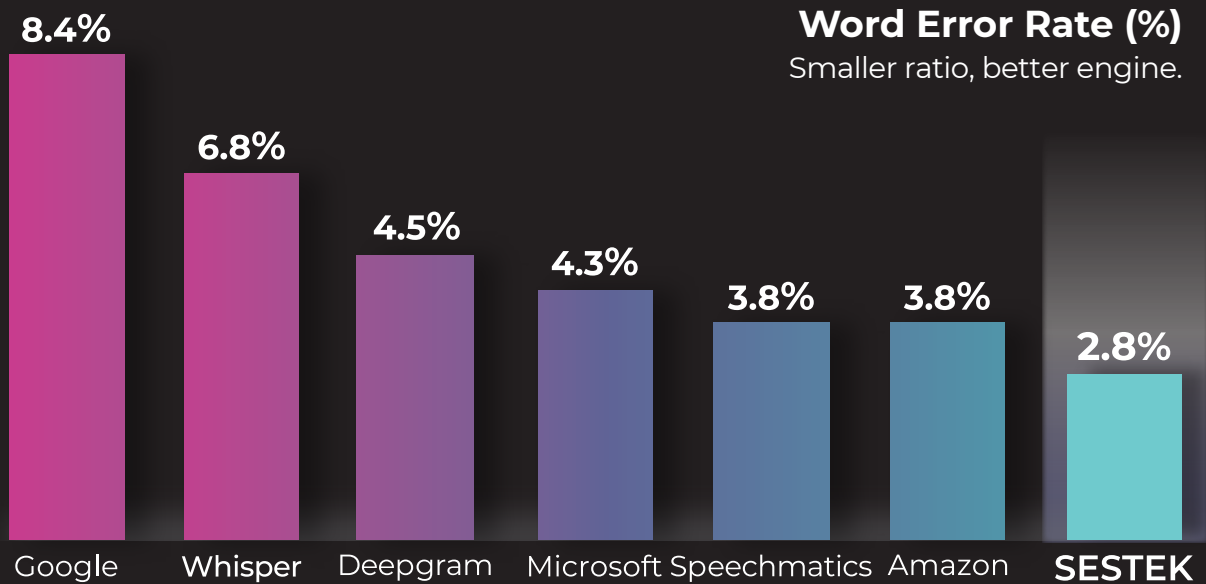
## KNOVVU SPEECH RECOGNITION

DATA SHEET



# Market-Leading Accuracy Rate of >97%

Our fully in-house developed SR technology can capture and interpret human speech with >97% accuracy. This market-leading accuracy rate provides deeper analysis, more actionable insights and better results for your business.



WER is a common metric for SR engines; it is the ratio of the total words of the error to the total number of words in the reference.

## BENEFITS



### INCREASE SELF SERVICE

SR technology enables interactions between customers and systems, supporting customers using voice to reach answers and solve problems.



### IMPROVE EXPERIENCE

Whether it's executing a banking transaction or navigating through a voice-enabled IVR, the experience is elevated because it is fast and effortless.



### REDUCE COSTS

When customers can interact with systems seamlessly, process automation and self-service rates increase. This means most valuable agent time is saved.

# 1. Features

Our SR technology features help businesses improve the customer experience, streamline their operations and make decisions more informed.

## Voice Activity Detection

Detect when a person is speaking to optimize speech recognition technology and improve accuracy.

## Emotion Detection

Understand the emotional context of a conversation to respond appropriately and improve customer experience.

## Punctuation

Improve the readability and accuracy of transcriptions for better communication and decision-making.

## Language Identification

Automatically detect the language spoken by a speaker in an audio stream for effective communication with a diverse customer base.

## Inverse Text Normalization

Accurately transcribe colloquial or non-standard speech for improved accuracy and customer satisfaction.

## Speaker Diarization

Identify individual speakers in a conversation for improved data analysis and operational efficiency.

## Profanity Filtering

Ensure that transcriptions are professional and appropriate for improved brand image and customer satisfaction.

## Sentiment Analysis

Understand the emotional context of a conversation to respond appropriately and improve customer experience.

## 2. Language Support

Knowvu Speech Recognition provides flexible language support, with the ability to increase language support based on market and project needs. Following languages are supported by Knowvu Speech Recognition:

1. English
2. French
3. Spanish
4. German
5. Arabic
6. Turkish
7. Russian
8. Mandarin
9. Urdu
10. Dutch
11. Czech
12. Croatian
13. Italian
14. Ukrainian
15. Flemish
16. Greek
17. Indian
18. Kazakh
19. Pashto
20. Persian
21. Azerbaijani
22. Kurdish
23. Korean
24. Japanese
25. Portuguese
26. Polish
27. Latvian
28. Mongolian
29. Swedish
30. Tagalog
31. Finnish
32. Danish
33. Norwegian
34. Swahili
35. Welsh

### 3. Language Models

We offer two types of language models: Hybrid models and End-to-End (E2E) models. Our E2E models are our new generation models, providing numerous advantages over traditional hybrid models.

#### 1. Hybrid Models

Hybrid models use a combination of acoustic and language models to transcribe speech to text. While hybrid models have been used in the industry for many years, they require manual feature engineering and are often limited in their ability to handle diverse accents and speaking styles. Hybrid models can also be more resource-intensive and may require significant time and technical expertise to deploy.

#### 2. End-to-End Models

End-to-End (E2E) models are a new generation of language models that can transcribe speech to text with high accuracy and speed. E2E models utilize deep learning techniques and advanced algorithms to eliminate the need for manual feature engineering, resulting in faster and more accurate transcription. Additionally, E2E models can handle a wide variety of accents and speaking styles, making them ideal for businesses that operate in diverse markets.

#### Advantages of Next Generation E2E Models

At Knowvu, we believe that E2E models provide numerous advantages over traditional hybrid models.

1

E2E models can transcribe speech to text faster and more accurately than hybrid models, resulting in improved efficiency and customer satisfaction.



2

Additionally, E2E models are highly scalable, enabling businesses to handle large volumes of transcription requests with ease.



3

Finally, E2E models can provide businesses with improved accuracy and reliability, resulting in fewer errors and improved decision-making.



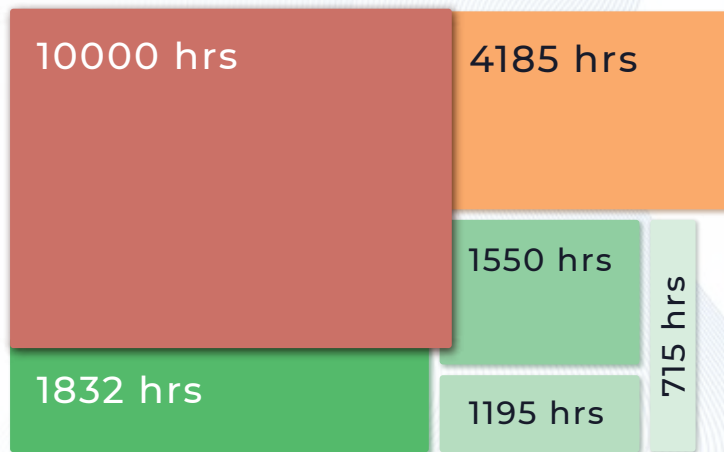
### 3. Multi-Language Models

With newly developed multi-language approach, single model can identify and transcribe multiple languages.

6-language, 4-language and bilingual models can be offered depending on business needs.

- **4-language multilingual model:** English, Arabic, French, Spanish
- **6-language multilingual model:** English, Turkish, Arabic, Russian, French, Spanish
- **Bilingual models:** Arabic-English, English-French, French-Dutch, English-Spanish

TRAINING SET DURATIONS (hrs)  
FOR 6-LANGUAGE MULTILINGUAL MODEL



■ en-US  
 ■ tr-TR  
 ■ ru-RU  
 ■ ar-SA  
 ■ fr-FR  
 ■ es-ES



# 4. Transcription Types

## Batch Transcription

You can transcribe pre-recorded media files whenever it's convenient for you. Save time and resources by automating the transcription process. Improve the accuracy of transcriptions by providing ample time for the software to analyze and transcribe speech.

## Real-time Transcription

You can transcribe in real-time and collect actionable info in industries such as healthcare, finance, and customer service, where timely and accurate communication is critical. With Knowvu Speech Recognition's real-time transcription, businesses can improve their response times, reduce errors, and streamline their operations.



00:00:00  
*Hello. I am Jen from ABC Company. How may I help you today?*

00:00:05  
*Hello. I'm planning a trip to Europe next week and I want to learn about your data roaming plans.*

00:00:13  
*Absolutely. We have a campaign for our international traveling customers, and I can offer our Premium Roma plan. You only pay \$10 on top of your current plan.*

00:00:28  
*Thanks for the offer. Please upgrade my plan to Premium perfect.*

00:00:32  
*Welcome to our premium club.*

## 5. Easy Deployment

### On-premise Deployment

With on-premise deployment of Knowvu Speech Recognition, businesses can have complete control over their data, ensuring maximum security and privacy. The software can be installed on your own hardware, allowing for faster data processing and reduced latency. Additionally, Knowvu Speech Recognition offers easy integration with existing software and systems, making it a seamless addition to your business's infrastructure.

### Cloud

This feature offers scalability, enabling businesses to freely adjust their computer resources as needed. All the advantages of the Knowvu Speech Recognition are provided by our SaaS, but without the difficulties of implementing it within your own team and environment. It offers scalability, enabling businesses to increase or decrease their computing resources as needed. This deployment option eliminates the need for businesses to maintain your own hardware, reducing maintenance costs and minimizing the need for technical expertise. With Knowvu Speech Recognition's cloud-based solution, businesses can easily access the software from anywhere, on any device with an internet connection.





## 6. Integration Types

### REST (Representational State Transfer)

The fastest integration method for your application. Businesses can easily integrate speech recognition into their existing applications and systems. REST integration is highly versatile and can be used in a variety of industries, including healthcare, finance, and customer service.

### MRCP (Media Resource Control Protocol)

It is the recommended integration method for IVR systems. MRCP SR Server is a standalone service, this service can be integrated to most IVR systems (e.g., Avaya, Genesys, Cisco) through simple configuration. MRCP integration provides businesses with a more efficient and cost-effective way of handling large volumes of calls.

### WebSocket

It provides full-duplex communication channels over a single TCP connection. It allows for partial recognition results to be displayed in the client app until the full sentence is uttered, so it is more suitable for mobile applications especially. Businesses can easily integrate speech recognition into their web applications such as chatbots and virtual assistants. This integration is highly responsive and enables businesses to provide real-time feedback to users.



# Unilever boosts sales after listening to customers

“For this project, we decided to work with SESTEK, known as the best company in their line of work. Especially, their expertise in voice technologies attracted our attention.”

— Unilever

## THE CUSTOMER

Unilever is a global consumer goods company, offering beauty and personal care products, food and refreshments, and home care products.

## THE CHALLENGE

Unilever aimed to collect customer insights and identify their preferences for its Domestos bleach product. However, they had to analyze a vast amount of customer calls at its call center.

## THE SOLUTION

Using Sestek's Speech Recognition technology allowed Unilever Turkey to analyze large volumes of customer calls quickly and accurately, enabling Unilever to make data-driven decisions that improve customer satisfaction and drive sales.



**120K**

of calls converted into text and analyzed

**6**

New product variants introduced to the market

**↑48%**

Increase in sales growth

# SESTEK


Conversational Automation Company

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SESTEK is a conversational automation company helping organizations with conversational solutions to be data-driven, increase efficiency and deliver better experiences for their customers. Sestek's AI-powered solutions are built on text-to-speech, speech recognition, natural language processing and voice biometrics technologies.

SESTEK is a part of UNIFONIC

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