

# ReadSpeaker® speechEngine SDK

ReadSpeaker speechEngine SDK provides the tools developers need to create speech-enabled applications on desktop and other PC-based devices.

## Product Description

ReadSpeaker speechEngine SDK is designed for developers who need an on-device text-to-speech solution for desktop and other PC-based applications. The TTS engine is installed locally and supports a wide range of operating systems. The SDK is delivered for the platform specified in the customer's order. Use of ReadSpeaker speechEngine SDK is governed by a separate License Agreement that defines the licensed platform, voices, and permitted use context.

## Features

### High-Quality Synthetic Speech

ReadSpeaker's text-to-speech voices deliver clear, natural, human-like synthetic speech and are continually optimized to ensure consistent quality and reliable output.

## 150+ Voices in 50+ Languages

speechEngine SDK supports ReadSpeaker's catalog of more than 150 synthetic voices across over 50 languages. New voices and languages are added regularly. A complete list is available on the ReadSpeaker website.

## Modifiable Speaking Rate, Pitch, and Volume (DSP)

The speaking rate, pitch, and volume can be configured as desired.

## Use SSML to tweak the audio output

SSML provides fine-grained control over how text is rendered as speech. It can be used to modify prosody, insert pauses or breaks of specific durations, add phonetic transcriptions, and switch voices or languages within the same text.

## User Dictionary and IPA Support

Each licensed language includes a user dictionary where customers can define custom pronunciations for words or patterns. This improves the reading accuracy for domain-specific vocabulary. Multiple user dictionaries per language and IPA transcription input are supported.

## Voice and Language Switch

speechEngine SDK supports switching to another language or to another voice in the same language during text-to-speech conversion, based on SSML instructions in the input.

# Technical Specifications

## Supported Operating Systems

- Windows 10 and 11
- Linux
  - CentOS Stream 9.x – 10.x
  - Ubuntu 18.x – 24.x
  - RHEL 7.x – 9.x
- Other operating systems can be supported on request

## CPU

Intel x86/64, 1 GHz or higher.

Note: AVX support is required on x64 architectures. If your environment lacks AVX support, please contact ReadSpeaker.

## RAM

6 MB – 30 MB

## Voice Footprint

9 MB – 35 MB per voice (Deep Neural Networks technology)

## Runtime memory

20 MB – 30 MB (Neural Standard)

## Development languages

- C / C++ (Windows/Linux)
- C# (Windows)
- Java (Windows/Linux)

## Supported text input formats

- Plain text
- SSML

## Supported character encoding for text input

- Plain text supports Multibyte
- SSML supports UTF-8 encoding

## Supported audio formats

- 16-bit linear PCM (raw/WAV)
- 8-bit PCM (A-law,  $\mu$ -law) (raw/WAV)
- 8-bit unsigned linear PCM Wave
- 4-bit Dialogic ADPCM

## Voice and Language Switch

Switching to another language or another voice in the same language can also be performed using SSML as the input text.

## Simple implementation

ReadSpeaker speechEngine SDK is easy to implement using the supplied documentation and sample code.

## Implementation support

ReadSpeaker speechEngine SDK includes implementation support from the ReadSpeaker Support Team. The team assists customers in understanding and carrying out the integration according to the provided instructions.

## Licensing

ReadSpeaker speechEngine SDK is governed by a license agreement. See the Licensing section under Requirements and Limitations for more information. The license agreement is technically enforced by a license file that specifies and enforces:

- The text-to-speech voices included in the license
- The license term (duration of permitted use of speechEngine SDK)

## Product Components

### ReadSpeaker TTS Engine

The ReadSpeaker TTS Engine converts text into synthetic speech. The ReadSpeaker TTS Engine includes a pronunciation dictionary for the licensed language.

### User documentation

The SDK package includes the necessary APIs and integration documentation.

# Requirements and Limitations

## Licensing

A license agreement governs and restricts the use of ReadSpeaker speechEngine SDK Embedded. It defines:

- The permitted usage context for speechEngine SDK, typically identified by the name and description of the application(s) to be speech-enabled
- The text-to-speech voices included in the license
- The license term (duration of permitted use of the SDK)

## Intended Use

Customers may only use ReadSpeaker speechEngine SDK in accordance with this product specification and the required license agreement.

Any other outside the scope defined in this specification and the license agreement is not considered intended use.

## Disclaimer

The features listed in this document are guaranteed only when ReadSpeaker speechEngine SDK is implemented according to the provided instructions. Specifications and features may be modified by ReadSpeaker at any time without prior notice.