Using Translate & Speak in Access

1. Introduction

This example database demonstrates the use of both **Google Translate** and **Text to Speech** in Access.
Text may be entered in (and translated to) any supported language (109 in total).

There is a limit of around 9800 characters for the translation feature.

In addition, the text may be '**spoken**' using any installed voice for that language.
Currently, voices are available for up to 35 languages in **Windows 10**.

Only the voice(s) for the default language are installed by default.
However additional voices can be installed from Windows Settings (see later)
NOTE: A registry fix is needed to 'activate' some voices.

Where no dedicated voice is available, an alternative voice is offered depending on the language used.

Although both the *Translate* and *Text to Speech* features are intended to be used together, I will describe each feature separately for convenience.

When the app is first opened, a start form is displayed

You can modify the language used for this form by selecting a different language using the combo.
For example:
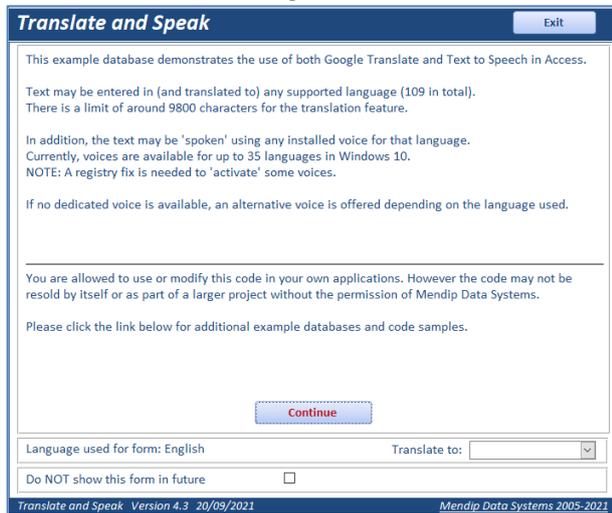
English	**Japanese**
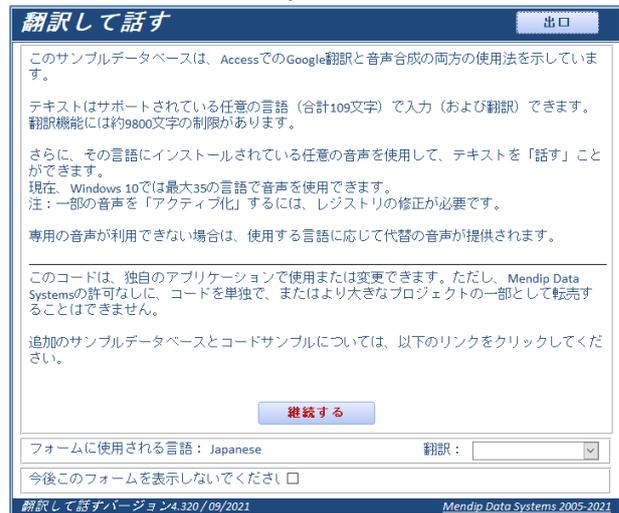
NOTE:
1. The start form will always revert to English when it is next opened
2. Text to Speech is not provided on the start form
3. Tick the checkbox if you want to bypass the start form in future

Click the **Continue** button to open the main form

2. Using Google Translate
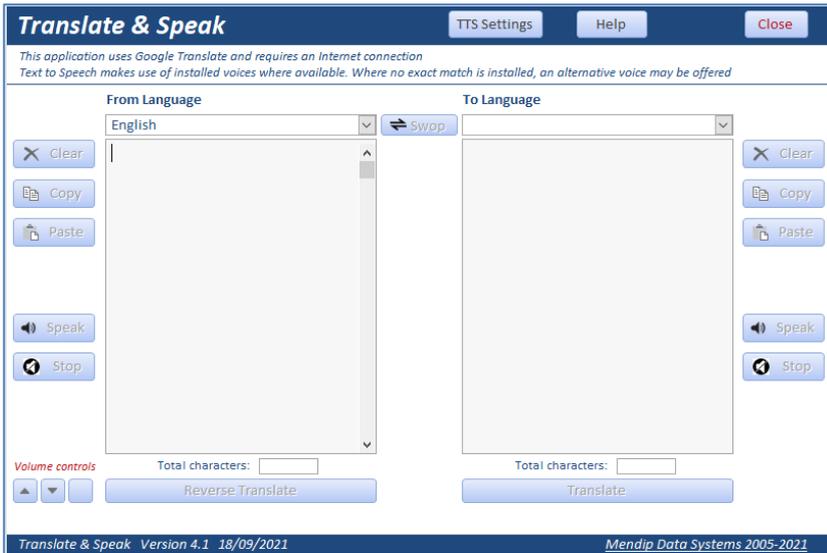
At first almost all form buttons will be disabled.
The **Help** button opens this PDF help file
The **TTS Settings** button is used for the **Text to Speech** feature and will be described later

The **From Language** combo will show the **default language** for your workstation – in this case English.
This can be changed where appropriate
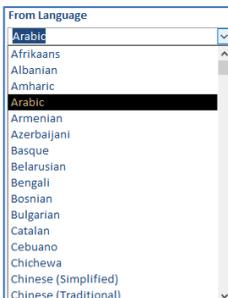
Type or paste some text into the text box on the left then select a language for it to be translated to.
The translated text will appear automatically

To translate again, you can change the **From Language** or **To Language** using the combos.
Click the **Translate** or **Reverse Translate** button as appropriate.

You can also click the **Swop** button to **swop** the contents of the **From** and **To** sections
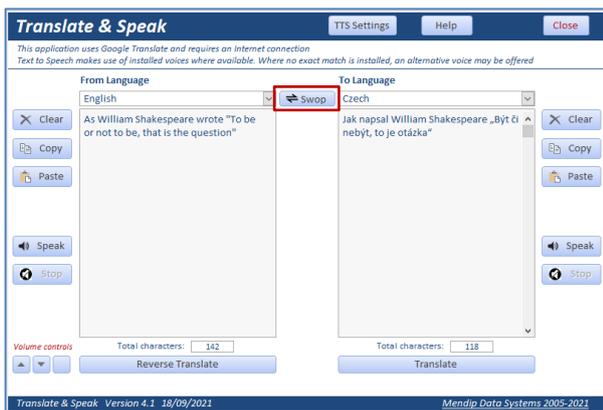
The number of characters (including spaces and line returns) is shown below the text
The **maximum length** of text that can be translated is about 9800 characters
(By contrast, when using the **Google Translate** site itself, the limit is only 5000 characters)

If the maximum character limit is exceeded, no text is displayed
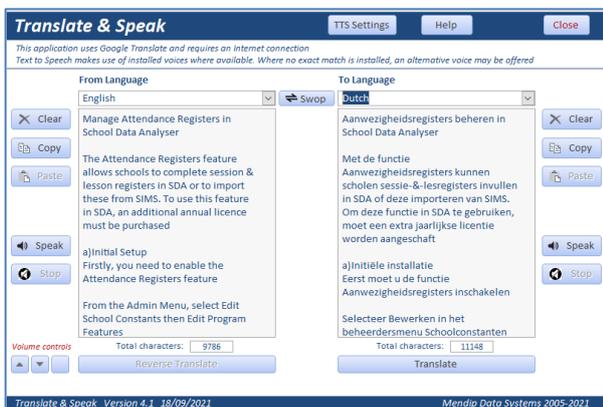
NOTE: Further translation will also be prevented if the starting text length is above the character limit (as in the Dutch text on the left screen above.

Whilst translation services such as Google or Bing generally work well for many languages, inevitably the results are not always perfect. Conversion errors tend to be more noticeable when converting between languages with a Latin character set (e.g. Spanish, German, English, Polish, Swahili) to those languages which use non-Latin character sets (e.g. Arabic, Chinese, Greek, Hebrew, Russian).

A useful method of testing accuracy is to do repeated translations before converting back to the original language. For example, the original text in English shown below was repeatedly translated:
English => Arabic => Greek => Chinese (Simplified) => French => Japanese => English

The final result is understandable and it is possible to see how it was obtained - but clearly it isn't perfect!

3. Using Text to Speech

To use the **Text to Speech (TTS)** feature at a very basic level, just click on the **Speak** button alongside the text. You can click the **Stop** button at any time if you don't want to hear the full text.

You can also use the **volume control** buttons to make the sound level quieter / louder.
The right-hand volume button is a toggle to mute/unmute the sound.
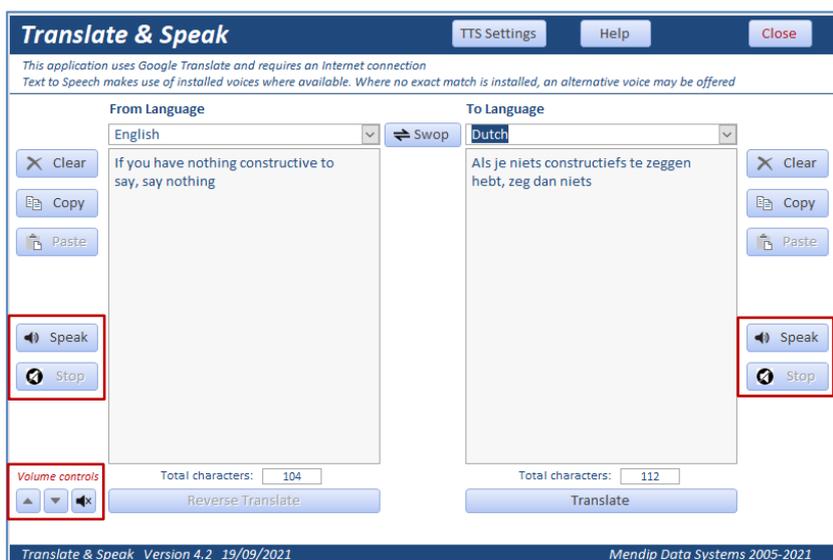
However, by default, the application will only be able to speak in a voice designed for your default language e.g. English (Great Britain) and languages using different scripts will not be readable in that language.
NOTE: In addition, English (United States) is always installed no matter what language is the default.

To use the **TTS** feature most effectively, you should install voice packs for additional languages.

You can easily find out which voices are installed by clicking the **TTS Settings** button.
A new form opens:
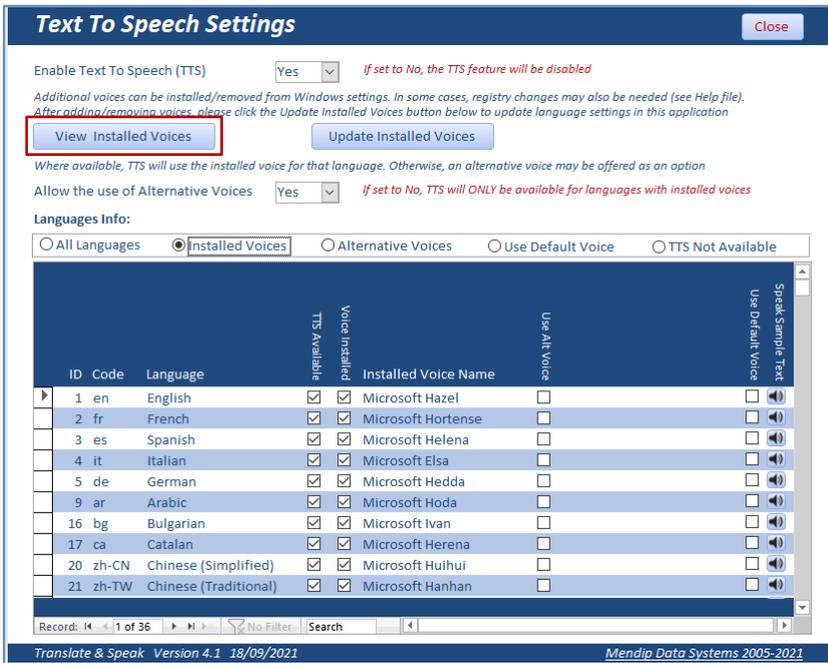
Click the **View Installed Voices** button to open a report listing all voices currently installed.
For example, by default my computer just has two voices:
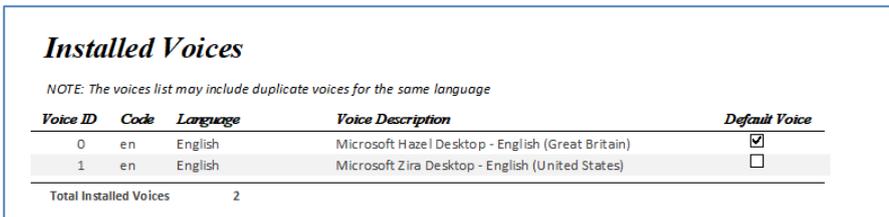
In fact, as Google doesn't distinguish between different variants of English, that effectively means one usable voice initially!

To install additional voice packs, go to **Windows Settings => Time & Language => Speech**:
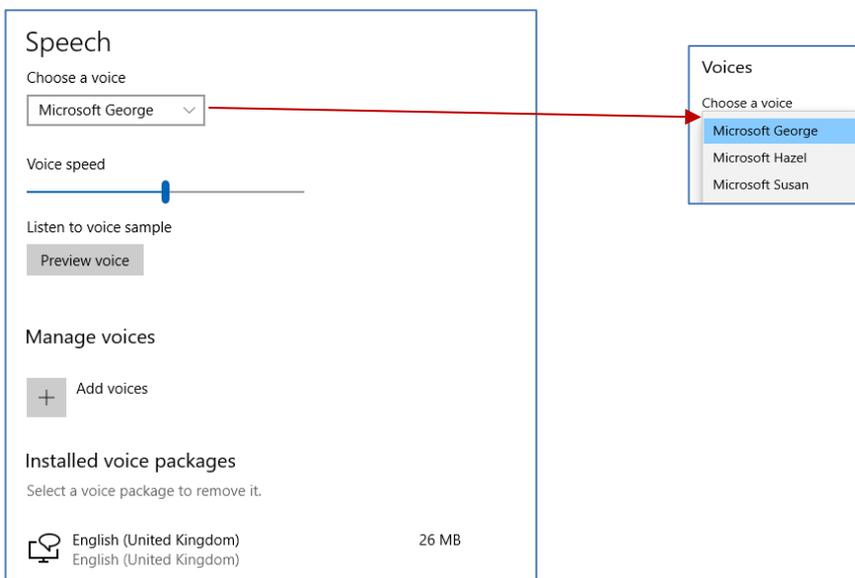
Now click on **Add Voices.** Tick all voices you wish to install from the list then click **Add**:
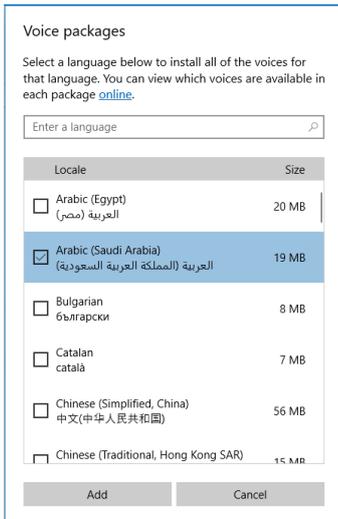
You can add multiple voice packs at once but the process may take several minutes to complete.

NOTE:
There is no point selecting multiple variations for English, Arabic etc as only one of each can be used
However, you can select both Chinese (Simplified) and Chinese (Traditional) as these are treated separately by Google Translate.

There are a total of **75 voices** in **48 languages**.
For details, see Supported languages and voices (microsoft.com).
As a test, I installed 38 languages (all except for duplicates).

After installing new voices, you need to ensure these are available to the Access application.
To do so, click the **Update Installed Voices** button.
If all voices are available in Access, you will see a message like this. Click **Yes** to view an updated report
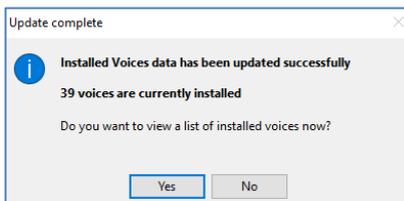
Installed Voices

NOTE: The voices list may include duplicate voices for the same language

Voice ID	Code	Language	Voice Description	Default Voice
0	en	English	Microsoft Hazel Desktop - English (Great Britain)	☑
1	ar	Arabic	Microsoft Naayf - Arabic (Saudi)	☐
2	bg	Bulgarian	Microsoft Ivan - Bulgarian (Bulgaria)	☐
3	ca	Catalan	Microsoft Herena - Catalan (Catalan)	☐
4	cs	Czech	Microsoft Jakub - Czech (Czech Republic)	☐
5	da	Danish	Microsoft Helle - Danish (Denmark)	☐
6	de	German	Microsoft Hedda - German (Germany)	☐
7	el	Greek	Microsoft Stefanos - Greek (Greece)	☐
8	fi	Finnish	Microsoft Heidi - Finnish (Finland)	☐
9	fr	French	Microsoft Julie - French (France)	☐
10	iw	Hebrew	Microsoft Asaf - Hebrew (Israel)	☐
11	hi	Hindi	Microsoft Hemant - Hindi (India)	☐
12	hr	Croatian	Microsoft Matej - Croatian (Croatia)	☐
13	hu	Hungarian	Microsoft Szabolcs - Hungarian (Hungary)	☐
14	id	Indonesian	Microsoft Andika - Indonesian (Indonesia)	☐
15	ms	Malay	Microsoft Rizwan - Malay (Malaysia)	☐
16	no	Norwegian	Microsoft Jon - Norwegian (Bokmål)	☐
17	nl	Dutch	Microsoft Frank - Dutch (Netherlands)	☐
18	pt	Portuguese	Microsoft Helia - Portuguese (Portugal)	☐
19	ro	Romanian	Microsoft Andrei - Romanian (Romania)	☐
20	sk	Slovak	Microsoft Filip - Slovak (Slovakia)	☐
21	sl	Slovenian	Microsoft Lado - Slovenian (Slovenia)	☐
22	sv	Swedish	Microsoft Bengt - Swedish	☐
23	ta	Tamil	Microsoft Valluvar - Tamil (India)	☐
24	th	Thai	Microsoft Pattara - Thai (Thailand)	☐
25	tr	Turkish	Microsoft Tolga - Turkish (Turkey)	☐
26	vi	Vietnamese	Microsoft An - Vietnamese (Vietnam)	☐
27	zh-TW	Chinese (Traditional)	Microsoft Hanhan - Chinese (Traditional)	☐
28	de	German	Microsoft Hedda Desktop - German	☐
29	ar	Arabic	Microsoft Hoda - Arabic (Egypt)	☐
30	en	English	Microsoft Zira Desktop - English (United States)	☐
31	es	Spanish	Microsoft Helena Desktop - Spanish (Spain)	☐
32	fr	French	Microsoft Hortense Desktop - French	☐
33	it	Italian	Microsoft Elsa Desktop - Italian (Italy)	☐
34	ja	Japanese	Microsoft Haruka Desktop - Japanese	☐
35	ko	Korean	Microsoft Heami Desktop - Korean	☐
36	pl	Polish	Microsoft Paulina Desktop - Polish	☐
37	ru	Russian	Microsoft Irina Desktop - Russian	☐
38	zh-CN	Chinese (Simplified)	Microsoft Huihui Desktop - Chinese (Simplified)	☐

Total Installed Voices 39

NOTE: The total may include duplicate voices for the same language

Disappointingly, you will initially see a far smaller number of available voices – 16 or less.

I found the explanation in this very helpful thread at the StackOverflow forum:
[Text to speech - Windows 10 TTS voices not showing up](#)

As the article explains, there are in fact two types of voices installed in Windows:
   a) A small number of older voices designed for text to speech and available to Access
   b) Many additional newer voices used by the Windows Narrator feature and not yet available for TTS.

The details of each type are stored in different places in the registry. For example:
   a) TTS voices in *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens*
   b) Other voices in *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech_OneCore\Voices\Tokens*

In order to make all installed voices available, a registry fix is required copying the other voice details to the *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens*

The details of the fix are provided in **Appendix A.**
If you just want to apply the fixes for installed voice packs without knowing the details, you can just use the relevant registry files supplied with this application in the **Voice Reg Files** subfolder.
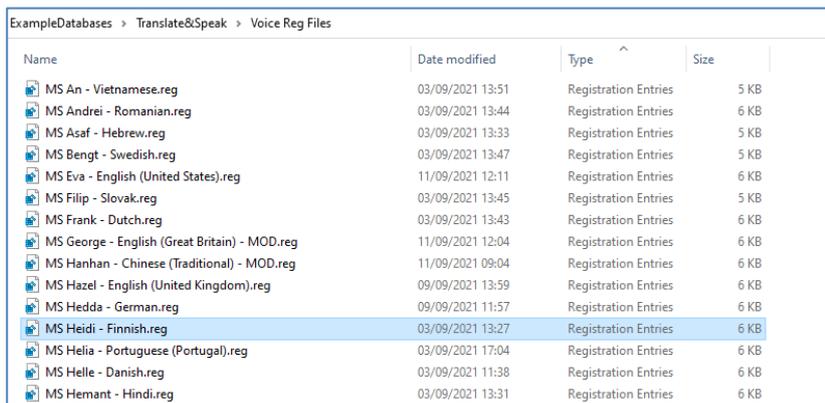
ExampleDatabases › Translate&Speak › Voice Reg Files			
Name	Date modified	Type	Size
MS An - Vietnamese.reg	03/09/2021 13:51	Registration Entries	5 KB
MS Andrei - Romanian.reg	03/09/2021 13:44	Registration Entries	6 KB
MS Asaf - Hebrew.reg	03/09/2021 13:33	Registration Entries	5 KB
MS Bengt - Swedish.reg	03/09/2021 13:47	Registration Entries	5 KB
MS Eva - English (United States).reg	11/09/2021 12:11	Registration Entries	6 KB
MS Filip - Slovak.reg	03/09/2021 13:45	Registration Entries	5 KB
MS Frank - Dutch.reg	03/09/2021 13:43	Registration Entries	6 KB
MS George - English (Great Britain) - MOD.reg	11/09/2021 12:04	Registration Entries	6 KB
MS Hanhan - Chinese (Traditional) - MOD.reg	11/09/2021 09:04	Registration Entries	6 KB
MS Hazel - English (United Kingdom).reg	09/09/2021 13:59	Registration Entries	6 KB
MS Hedda - German.reg	09/09/2021 11:57	Registration Entries	6 KB
MS Heidi - Finnish.reg	03/09/2021 13:27	Registration Entries	6 KB
MS Helia - Portuguese (Portugal).reg	03/09/2021 17:04	Registration Entries	6 KB
MS Helle - Danish.reg	03/09/2021 11:38	Registration Entries	6 KB
MS Hemant - Hindi.reg	03/09/2021 13:31	Registration Entries	6 KB

NOTE:
   1. 34 registry files have been supplied in total.
      Only use those where the voice pack has already been installed
   2. To use any of these files, double click the file …. OR right click and select Merge
      The file contents will be added to the registry and available in both 32-bit & 64-bit Access
   3. **You should only edit the registry where you are confident in doing so. Incorrect registry edits can cause issues in Windows. However, the supplied files are absolutely safe to use**.

Once you have completed registry fixes for each of the voice packs you have installed, you should again click the **Update Installed Voices** button on the TTS Settings form.

The languages can now be divided into 4 groups:
   a) Languages with installed voices – a total of 35 on my computer
   b) Languages for which alternative voices can be substituted reasonably well e.g. Catalan spoken in Spanish, Pashto in Arabic etc – another 35 on my computer
   c) Languages which can be read in the default voice e.g. Afrikaans / Albanian spoken in English. There will inevitably be pronunciation errors in such cases
   d) Languages where text to speech is NOT currently available due to there being no voice capable of reading the character set used e.g. Armenian, Gujerati – there are only 14 of these on my computer

Use the option group buttons on the form to view a list for each group

Click the **Speech** button to hear **sample text** spoken in the installed voice or alternative voice suggested for any of these languages. You can then decide whether you wish to use the alternative voices suggested

NOTE:
1. If you don't want to use any of the alternative voices suggested, set the **Allow the use of Alternative Voices** combo to **No**
2. To disable TTS completely, set **Enable Text to Speech** to **No**

You are now set to go!

IMPORTANT:
a) If you subsequently add additional voice packs, make sure you click **Update Installed Voices**
b) Where necessary create your own registry files using the guidance in **Appendix A**
c) Voice packs can also be purchased for other languages from various online sources
   These can vary significantly in quality so it is recommended to try before you buy.

Appendix A – How to create registry files for additional voices

The information in this appendix is based on an article at:
https://stackoverflow.com/questions/40406719/windows-10-tts-voices-not-showing-up

Before you start, make sure you have installed the voice pack for the relevant country.

In this example, the voice **Microsoft Pablo – Spanish (Spain)** will be added to text to speech.

First of all, you need to open the registry editor.
One way to do this is to right click the Windows **Start** button, select **Run** and type **Regedit**
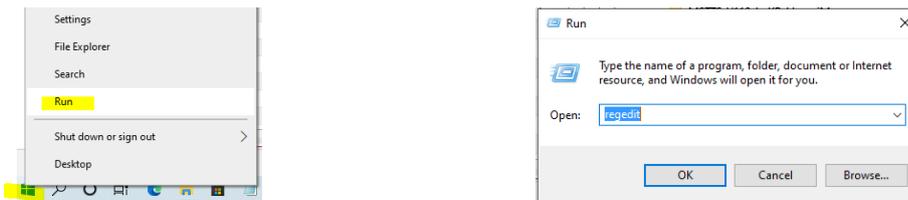
A message will be shown asking whether you want to make changes to your device.
Click **Yes** to open the registry editor. An **Explorer** like window will open:
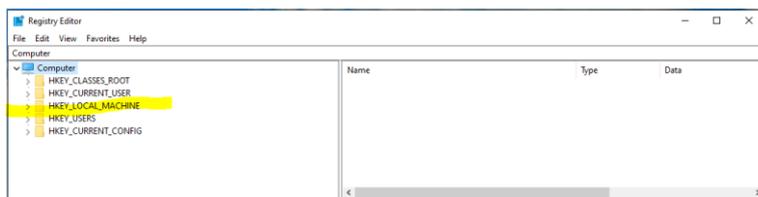
Click the > arrow next to *HKEY_LOCAL_MACHINE* and continue selecting until you reach
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech_OneCore\Voices\Tokens

Now select the voice **Microsoft Pablo** : *MSTTS_V110_esES_PabloM*
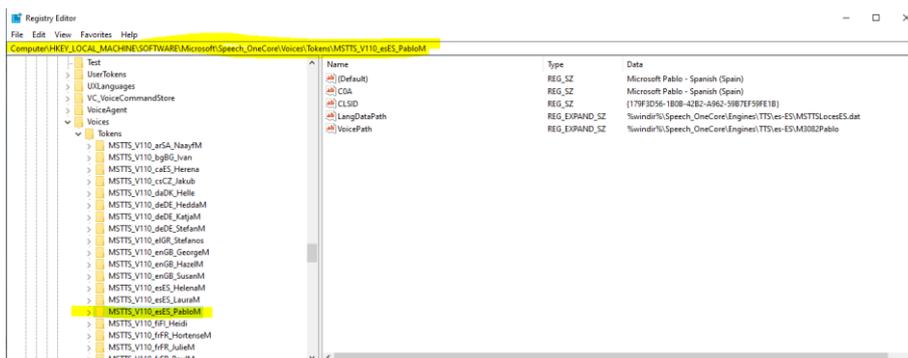
Right click the *MSTTS_V110_esES_PabloM* 'folder' and select **Export**
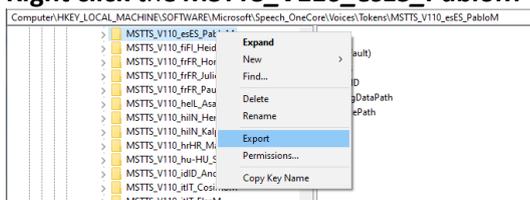
Choose a folder to **export** the registry file (.reg) and **save** using a suitable file name
e.g. *MS Pablo – Spanish (Spain).reg*

Right click the saved file and select **Edit** to open it in **Notepad:**

Edit the file as follows:

1. Delete the entire section starting **SayAsSupport** (highlighted) as it isn't needed for text to speech
2. Change the text in both **Speech_OneCore** locations to **Speech**
3. Copy the entire text and paste it below the existing text
4. Now modify the new text adding *WOW6432Node* between *SOFTWARE* and *Microsoft* in both locations. This entry will be used by any computers running 32-bit Access in 64-bit Windows

The modified file should now look like this:

Save the modified file.

Next **double click** the saved file to **add it to the registry** (or **right click** and select **Merge**).
A warning message will appear. Click **Yes** to continue
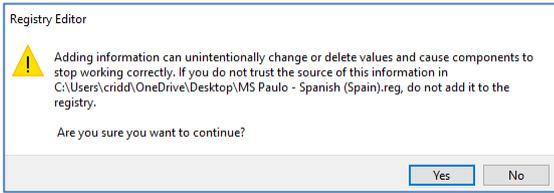
The new voice data will be added to the registry and will now be available for **Text to Speech** in **Access**

Open the **TTS Settings** form in the **Translate & Speak** app and click **Update Installed Voices**
The voice **Microsoft Pablo** should now be included in the list of installed voices

Repeat the process to make any other installed voices available for text to speech in Access

Appendix B – References

Using **Text to Speech** requires the **Microsoft Speech Object Library** reference.

Note that there are two different references with that name.
Make sure you use the **sapi.dll** reference shown below:
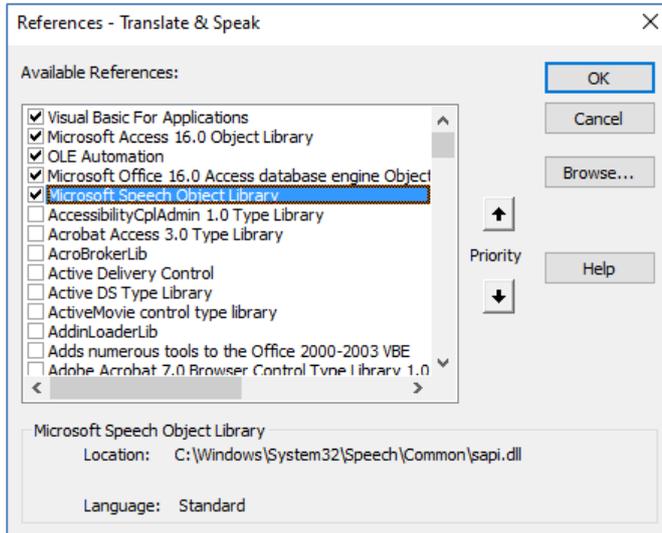
No additional references are needed for the **Translate** feature