Subtitling the canonisation

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Foreword

On April 27th 2014 one of the greatest Christian historic events took place: four Popes virtually met for the first time. Pope Francis celebrated the canonisation of Pope John XXIII and Pope John Paul II in front of hundreds of thousands of believers together with the emeritus Pope, Benedict XVI, who concelebrated the Mass.

On the secular side, on April 27th 2014, one of the most important events took place in the history of respeaking, in that this technique was used for the first time to subtitle such an important event in real time in four different languages – Italian, English, Spanish and Polish – by onA.I.R., International Association on Respeaking.

For this ambitious project, implemented in collaboration with the Vatican Television Centre (CTV), onA.I.R. relied on 40 volunteers and 3 software-houses, involved at various levels and different phases. The two main characteristics of the event were "international cooperation" and "technological support".

International cooperation
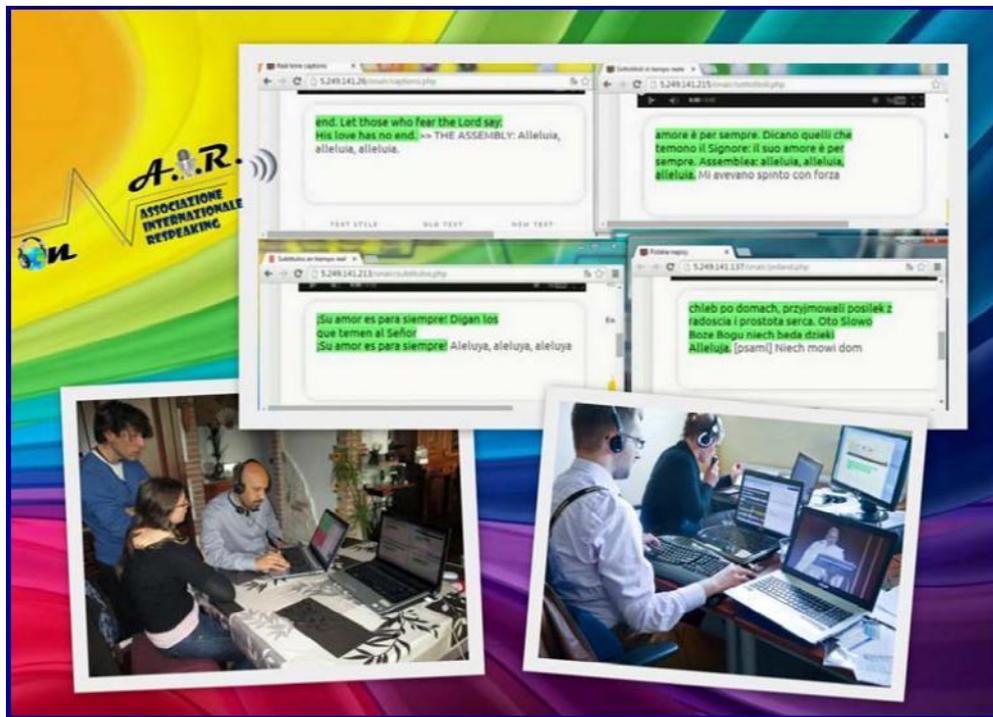
It is important to underline that the international cooperation that characterised the event involved five different States: Italy, Spain, Poland, and the US States of Georgia and Colorado. Italy, of course, had a prominent role in the project, not just because the Holy Mass was held in Saint Peter's square, but also because both onA.I.R. and SyNTHEMA Srl are Italian. The actual subtitling process of the event was basically divided into two phases. In the first phase, previous to the event, some onA.I.R. members translated the official booklet of the event (the original version being in Latin and other languages) into Spanish and Polish (the Italian and in English versions were provided by the organisers of the event), while other members rearranged such translations into subtitles. The only parts of the Mass unknown to the respeakers were the homily and the final thanks.

These parts had to be subtitled live. That is why, on the day of the event, the Italian respeaker, Carlo Eugeni, was connected both with the CTV, that broadcast in real time audio and images, and with three interpreters (Spanish, English and Polish), who were themselves connected via Skype with the respeakers subtitling in the respective languages.

The subtitling process could then start:

- The Italian respeaker received the original audio from CTV and created the Italian subtitles in real time;
- The interpreters received the voice of the Italian respeaker and simultaneously interpreted it for respeakers;
- The respeakers received the translation in their language and created the subtitles in real time.

Specifically, this is how each language service was organised:

- **Italian:** one respeaker and two editors who interchanged, in the same location in Italy;
- **Polish**: one respeaker and one editor, both in the same location in Poland, who are shown in this image
- **English**: two respeakers who interchanged, one in Georgia and one in Colorado;
- Spanish: one respeaker for the homily and the final thanks in Spain and one subtitler for the subtitles to be manually cued, in Italy.

Technological support

~ onA.I.R. has been collaborating for two years with the Italian software-house SyNTHEMA Srl, which developed the respeaking interface called **SpeechTitle2**, that can broadcast real-time subtitles directly on the web, so that they can be easily accessed from all over the world.

- SpeechTitle2 works thanks to the speech-recognition engine Dragon NaturallySpeaking and allows for managing the subtitling process in different ways depending on the needs. Thanks to SpeechTitle2 an event can be subtitled in real time by one or two operators, who can work both on-site and remotely.
- If the two operators, namely the **respeaker** (**who produces the text by dictating it to the software program**) and the editor (who corrects the text) were to be distant it would be necessary to work on two different computers both connected to the Internet, one in the "respeaking" mode and the other one in the "editing" mode. In this case the respeaker would orally produce the text which is transcribed thanks to the speech recognition engine on his/her computer and simultaneously transferred on the editor's PC who would verify the text and, in case of mistakes, correct it before the web broadcast.
- As far as the output is concerned the number of lines per subtitle and the number of characters per line are chosen by the respeaker upfront, while the final output layout can be entirely customised by the user, who can choose font, character dimension, colour of the text and colour of the background. The user can also choose different colours for the text that has already been displayed (and that therefore has presumably already been read) and the newly arrived text (yet to be read).
- On the occasion of the canonisation, onA.I.R. decided to use only one PC per language with a delay of 3 seconds from the automatic word-by-word broadcast of the text.
- For the languages Italian and Spanish the software program was used without further adaptations, while for English and Polish the software developer, Nicola Piccinini, had to make some changes in collaboration with the technicians of two software-houses: American Advantage Software and Polish Unikkon. The collaboration with Advantage Software was requested by the respeakers participating in the event, who were more familiar with the respeaking software Total Eclipse.

- The collaboration with Unikkon was due to a practical necessity: Dragon cannot be used for the Polish language. If, on the one hand, adapting SpeechTitle2 to the English language proved to be quite easy, on the other hand adapting it to the Polish language was difficult because of some Polish characters that would not appear on the web page. Nonetheless, the Poles managed equally well to subtitle the whole event.
- As far as accessibility of the service is concerned, onA.I.R. was confronted with the problem of a huge number of simultaneous connections and the management of four different web pages, one for each language, that had to be refreshed every quarter of a second for each user, so as to enable the subtitles flow. To avoid the system crashing onA.I.R. booked five external servers, one for each language (two for English).
- The high number of simultaneous connections caused another problem: since the webpages where the subtitles appeared also hosted the video stream of the event produced by YouTube, the normal delay of about 30 seconds from the actual live coverage increased. Furthermore every Internet connection normally streams the video with a varying delay, depending on every single user. For all these reasons, the best option seemed to be allowing the users themselves to set their own delay, so that subtitles could be in synch with the video stream.

Everything was supervised in real time by the project manager, Francesca Marchionne, who was ready to solve, when possible, any technical issue, and by some collaborators who reported to the manager every streaming problem.

For more detailed information about the project team, to watch the videos and see our photo gallery, visit www.respeakingonair.org/canonization.php.