# JUST SAY IT

International Workshop on Interpreting Technologies

# PROCEEDINGS

## of the International Workshop

## on Interpreting Technologies

## SAY-IT 2023

**Edited by Gloria Corpas Pastor and Carlos Manuel Hidalgo-Ternero**

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**In collaboration with:**

# Preface

The present volume comprises accepted contributions at *Just say IT: International Workshop on Interpreting Technologies* (SAY-IT 2023), which took place at the University of Malaga (Spain), on the 5th, 6th, and 7th of June 2023.

While language technologies have already made a major impact on the core tasks in the translation profession, the field of interpreting has not yet witnessed a fundamental paradigm shift on account of their use. Against such a background, SAY-IT 2023 aimed at filling in this gap by allowing the discussion, the scientific comparison, and the mutual enrichment of researchers and professionals working with interpreting-related technologies. In this regard, SAY-IT addressed the development of interpreting-related tools, and the experience interpreters have with these tools as well as the development of machine interpreting engines, incorporating (or not) human expertise. The workshop also offered a discussion forum and publishing opportunity for interpreters and for researchers and developers working on interpreting-related technology and machine interpreting. It also played a key role in fostering networking between all stakeholders.

The main fruits of such a productive workshop are collected in the present volume. SAY-IT 2023 sought to act as a meeting point for researchers working in interpreting-related technologies (CAI tools, machine interpreting, speech to text/speech translation, remote interpreting, etc.); practicing tech-savvy interpreters; companies and freelancers providing services in interpreting as well as companies developing tools for interpreters. In addition to the short papers for presentation included in this volume, SAY-IT also invited talks by leading lights in the field, as well as hands-on seminars hosted by practitioners. Over 80 attendees from all around the world were present at SAY-IT 2023 workshop, which welcomed contributions authored by a total of 17 scholars. These figures account for the truly international nature of the event.

Most contributions revolved around the notion of technologies for interpreting trainees (papers by Encarnación Postigo Pinazo & Presentación Aguilera Crespillo; María Teresa Ortego Antón; Ingrid Cáceres-Würsig & Darío Mantrana Gallego; Silvia Damianova Radeva, Carmen Valero Garcés & Elena Alcalde Peñalver; and Concepción Mira Rueda); technologies in the current professional practice  (papers by Laura Noriega-Santiáñez; and Michela Bertozzi & Francesco Cecchi); and technologies for remote delivery of interpretations (the papers by Olga Koreneva Antonova & Hanan Saleh Husein, as well as by Keming Peng, Aiping Mo & Menglian Liu).

Regarding the keynote speeches, three were the main axes of discussion. First, Bart Defrancq (Ghent University) paid attention to the dualism of the interpreting industry (with well-paid, well-educated and unionised conference interpreters vs.

isolated, poorly-remunerated and insufficiently-educated public service interpreters) and how emerging technologies are already widening the gap between these two groups. Secondly, both the present and the future of speech-to-text interpreting (STTI) and its contributions to accessibility were extensively covered by Daniela Eichmeyer-Hell (University of Vienna), who focused on STTI as a profession; Pablo Romero Fresco (Universidade de Vigo), who delved into STTI and live subtitling, and Marcin Feder (European Parliament), whose presentation revolved around live captioning, namely a speech-to-text and machine translation tool for 24 languages at the European Parliament. In this line, a closely related technology, automated speech translation, was presented in depth by Jan Niehues (Karlsruhe Institute of Technology), who chiefly concentrated on the challenges, approaches, and research directions of this emerging field. Finally, new-generation remote interpreting platforms were presented by Susana Rodríguez (Co-founder & CEO at KUNVENO), more specifically the SmarTerp-CAI, an AI-powered Computer-Assisted Interpreting tool designed to assist simultaneous interpreters; and by Fardad Zabeitan (Co-founder & CEO at KUDO), who displayed KUDO AI latest development in speech-to-speech translation technology. In addition, two seminars were delivered on VIP, a voice-text integrated system for interpreters, designed by the research group Lexytrad. They were organised in practical sessions, in which participants had the chance to discover all the possibilities the VIP system can offer for both interpreting trainees and professionals.

We would like to thank all authors who sent their contributions to this volume, the keynote speakers who accepted our invitation and offered insight and though-provoking discussions, as well as the reviewers for finding time to review the submissions and provide feedback, all participants for their stimulating discussions, and the organising committee for their invaluable support in order to guarantee that the whole workshop could run smoothly. We would also like to seize this opportunity and thank INCOMA Ltd. for making the publication of this volume possible. Finally, our deepest gratitude goes to our sponsors: University of Malaga (Vice-Chancery for Research), Research Institute of Multilingual Technologies (IUITLM), Research Group Lexytrad, Department of Translation and Interpreting (UMA), the Spanish Ministry of Science and Innovation (ref. PID2020-112818GB-I00, PDC2021-121220-I00) and the Andalusian Government (ref. ProyExcel_00540).

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# Simultaneous Interpretation (SI) facing the Zoom Challenge: technology-driven changes in SI training and professional practice

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**Abstract.** This paper investigates how the massive post-pandemic use of Zoom for simultaneous interpretation (SI) has transformed its practice and teaching. Drawing on data from refresher courses and the University of Bologna's MA Program in Interpreting, the study identifies challenges and best practices for utilizing this general-purpose video-conferencing platform in remote SI.

**Keywords:** remote simultaneous interpreting (RSI), Zoom, interpreter training, professional practice, technology-driven changes

## 1 Introduction and methodological aspects

### 1.1 Pre and post-pandemic scenario: RSI provision and training

Remote simultaneous interpreting (RSI) has a history predating the COVID-19 pandemic, with experiments dating back to the early 1970s (Flerov: 2015), while RSI pilot solutions were developed from the early 2000s onwards (Seeber et al: 2019). The mid-2010s saw the emergence of professional software-based solutions in the RSI[1] market. In 2019, the European Commission Directorate General for Interpretation (DG SCIC) was asked to analyze four RSI platforms to collect data for subsequent ISO standard elaboration (DG SCIC: 2019). This need for standardization indicated that the SI market was already changing (Jiménez Serrano: 2019), and the pandemic only accelerated the process.

Before the pandemic, SI's technical equipment had remained largely unchanged for decades, making RSI a significant shift in the interpreting provision scenario. When the pandemic hit, multilingual meetings were rapidly transitioned online due to social distancing measures, leading to a massive shift towards exclusively online services (Liu:

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[1] Interprefy, Interactio, Voiceboxer (now "Boostlingo") and Kudo. [source: www.interactio.io; www.kudoway.com; www.interprefy.com; www.boostlingo.com – Last visited: March 2023].

2022). This change also applied to SI training, as universities and interpreter training providers had to adapt quickly.

RSI software providers experienced considerable momentum due to these rapid changes (Defrancq & Fantinuoli: 2021), and new commercial players emerged in the market. The pandemic led to an unprecedented growth in demand for RSI services and licenses. At the same time, general-purpose video-conferencing platforms, like Zoom, began to be used for RSI provision, resulting in the "Zoom boom" in interpreting (Chmiel & Spinolo: 2022). Although not specifically designed for RSI, Zoom was used by 78.5% of respondents in a survey of 311 professional conference interpreters (*ibid.*).

The reasons behind Zoom's popularity for RSI, despite being unprofessional and unspecific for this purpose, include cost-related factors, its widespread use, and its user-friendly design. The Interpretation feature was implemented as an add-on (Saeel et al: 2022), and the platform's design and interface are flexible, making it suitable for different types of online events.

However, the rapid transition towards unspecific general-purpose software like Zoom for RSI provision brought about challenges for interpreters that went beyond mere technical aspects (*ibid.*). These challenges include concerns about interpreters' working conditions and their impact on the profession (*ibid.*). The "Zoom boom" has highlighted the need for further examination of how to best use this general-purpose video-conferencing platform for RSI and how this platform affects the interpreting profession in the long term.

## 1.2    The two case studies: CPD and academic training

This research investigates the changes in RSI via Zoom through two case studies: a cycle of refresher courses for professional conference interpreters (CPD) from 2020 to early 2023, and a teaching sub-module for MA students in Conference Interpreting at the University of Bologna. The two case studies, chosen for their different yet comparable training scenarios, focus on the shared use of Zoom for RSI.

The first case study (CPD) involved professional conference interpreters with diverse backgrounds, language combinations, and working contexts. Their commonality was working in the private market and needing a specific course to improve their use of technology for RSI via Zoom. Due to high demand, extra editions of the course were added, resulting in six live training sessions and 25 asynchronous sessions, involving a total of 124 conference interpreters.

The second case study focused on a small group of second-year students in the MA Program in Interpreting at the University of Bologna. They practiced part of their SI skills using Zoom during the course in Conference Interpreting from Spanish into Italian. A focus group with these students revealed problems and specific training needs related to using Zoom for RSI, as it was frequently used for their SI training during and after the pandemic, as well as for curricular and extra-curricular activities.

Both training scenarios identified challenges in using Zoom for RSI and a set of preliminary best practices to improve remote collaboration among interpreters and SI provision in general. The weaknesses and best practices listed integrate the experience of all participants, including professional conference interpreters, interpreting students,

and the two practisearchers (Gile: 1994) and have been identified through a set of focus groups both with the first and second case study participants.

## 2     Problems reported in the use of Zoom for RSI

### 2.1     General issues

The analysis of the two case studies uncovers challenges in RSI that are both general and specific to Zoom. Research indicates that RSI is cognitively more demanding than traditional in-person SI due to factors such as a lack of control, sense of presence, isolation, alienation, and technical issues like connectivity and sound/video quality (Kurz: 2003, Moser-Mercer: 2005, Roziner & Shlesinger: 2010, Mouzourakis: 2006, Winteringham: 2010, Chmiel & Spinolo: 2022).

Additional challenges emerge from the visual needs and increased human-computer interaction in a cloud-based environment, which contributes to higher cognitive demand (Ziegler & Gigliobianco: 2018, Saeed et al.: 2022). Interface design plays a critical role in improving usability for interpreters, who must manage multiple modal inputs.

A recent survey among conference interpreters (Chmiel & Spinolo: 2022) highlights the most problematic aspects of RSI, such as seeing the speaker and slides simultaneously, interacting with remote boothmates, and managing Q&A sessions, which are particularly challenging in both in-person and online conferences. These issues emphasize the need for further improvements in RSI platforms, including Zoom, to better support interpreters and enhance the overall interpreting experience.

### 2.2     Platform-specific issues

Scientific research struggles to keep up with the rapidly evolving RSI scenario, especially in the context of Zoom, a video-conferencing platform whose interpretation feature add-on has enabled its use for RSI (Chmiel & Spinolo, 2022; Zhu & Aryadoust, 2022; Saeel et al., 2022). The analysis refers to the 6th March 2023 5.13.11 version of the Zoom software for Windows.

Interpreters face multiple issues, as Zoom was not initially designed for RSI (Chmiel & Spinolo, 2022). The platform lacks interpreter-friendly flexibility, visual input, and privileges, while collaboration and communication with boothmates remain problematic (Saeed et al., 2022). Despite the introduction of the *relais*[2] or relay function in Zoom's 5.9.6 release (28th February 2022), interpreters still struggle with missing features such as a separate chat or volume adjustments (Chmiel & Spinolo, 2022).

Working with a non-co-located boothmate increases cognitive load and affects interpreting performance (*ibid*: 256). Therefore, remote collaboration is crucial for

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[2]   Multilingual *relais* (or relay) is a common practice needed when the interpreter from an A to a B language does not understand the C language spoken by one of the participants and therefore relies on the C to A language interpreter to provide their own interpreting into the B language.

researchers, practitioners, and software engineers to ensure smooth and fast communication during complex cognitive tasks like simultaneous interpreting (Davitti & Braun, 2020; Saeed et al., 2022).

Zoom's lack of a microphone handover function poses challenges, as it is considered a key feature alongside mute control and meeting exit buttons (Saeed et al., 2022).

Visual input issues arise from potential distractions, difficulties in changing spatial visualization, managing multiple tabs, and seeing both the speaker and slides together (Chmiel & Spinolo, 2022; Saeed et al., 2022). Additionally, both groups in the case studies reported challenges with managing multiple virtual booths and relays in Zoom.

Ethical and confidentiality concerns have emerged with Zoom's 6th November 2022 server-side update, which records the floor and all virtual booths in the cloud by default, raising data confidentiality concerns and conflicting with professional guidelines such as those provided by AIIC in its 2016 Memorandum[3].

Furthermore, hosts and event organizers face difficulties when scheduling meetings or webinars with language interpretation features, as these are not available for all licenses and are subject to limitations (maximum of 20 interpreters). Additionally, the process of activating and managing the interpretation panel during a meeting requires proficiency in using the platform and this can be particularly challenging for inexperienced users, affecting how the interpreting task is perceived and carried out (Chmiel & Spinolo, 2022).

Users of interpretation services also encounter problems, such as difficulty finding the interpretation button, balancing the volume between the floor and the interpreter, and the absence of interpretation features in break-out rooms.

In summary, the main issues reported by the two groups in the case studies are divided into three primary areas: interpreter-side, host-side, and attendee-side.

**Table 1.** Summary of the main issues reported in the two case studies.

| Category | Reported issue |
| --- | --- |
| Interpreter-side | Interpreter interface design; The interpreter is an "ordinary" participant; Difficult to listen to the boothmate and adjust the floor/boothmate ear balance; No dedicated chat for interpreters; No mic handover feature; Difficult to select the right audio input in *relais* mode; Default cloud recording. |
| Host-side | Difficult to schedule an interpreted event; Difficult to manage the interpretation panel; Max 20 interpreters per session. |

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[3] AIIC Memorandum concerning the use of recordings of interpretation at conferences, last updated Sept 2016: https://aiic.org/document/4427/Memorandum%20concerning%20the%20use%20of%20recordings%20of%20interpretation%20at%20conferences%20-%20ENG.pdf [last visited March 2023]

| | |
|---|---|
| Attendee-side | Difficult to see the interpretation button; Poor floor/booth volume balancing; No interpretation feature in break-up rooms. |

## 3    Best practices emerged in the use of Zoom for RSI

### 3.1    General preliminary settings

The increasing demand for remote communications has led researchers, interpreter trainers, and the interpreters' community to develop guidelines for RSI encompassing general requirements and recommendations, such as those found in studies by Causo (2011), Braun (2015), and Saeed et al. (2022), as well as technical recommendations from professional associations like AIIC, whose Taskforce on Distance Interpreting provided guidelines for working conditions, connectivity, and equipment requirements for RSI, including simultaneous and sign language interpreting.[4]

AIIC suggests using a stable wired Ethernet connection with 4 Mbps up and download speed for each video feed and a backup internet access option. They recommend wired headphones and microphones with a frequency response of 125-15,000 Hz, noise and/or echo cancelling, acoustic shock protection, and an additional computer/double screen or second device. AIIC also emphasizes the importance of a secure, soundproof, and noise-free workspace.

The use of a double screen or secondary device, such as a tablet, is particularly relevant when using Zoom for RSI. Saeed *et al.* (2022) recommend a clean and minimal interface, interactivity for non-verbal visual inputs among interpreters, and avoiding distractions on the main screen. Participants in the two case studies found a secondary device helpful for glossary viewing, document preparation, online searches, backchanneling, and remote communication with boothmates. This aligns with Chmiel & Spinolo (2022), who found that most respondents used an external chat on a separate device to interact with boothmates.

Tablets were considered a user-friendly and interactive solution for terminology searches and backchanneling, allowing interpreters to split their attention more easily without relying on a single computer for all tasks. This approach improved the visual organization and searchability of glossaries/documents and enabled non-verbal instant communication with boothmates through a dedicated video channel.

### 3.2    Platform-specific best practices

The two case studies identified specific best practices for using Zoom in RSI, addressing shortcomings in boothmate cooperation, visual organization, and interaction between interpreters, hosts, and attendees (5.13.11 Zoom version). These best practices, summarized in Table 2, cover four categories and aim at improving various aspects of RSI on the platform:

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[4] https://aiic.org/site/world/about/profession/distanceinterpreting [last visited March 2023]

**Table 2.** Summary of the main best practices that emerged in the two case studies.

| Category | Best practices |
|---|---|
| Boothmate coopera-tion and microphone handover manage-ment | Separate dedicated channel for better com-munication;<br>Use of a virtual audio mixer to balance audio sources (floor/boothmate);<br>Webcam on a secondary device for handover management and non-verbal communication with the boothmate;<br>Use of shared doc/backchannel or virtual blackboard for prompting. |
| Visual aspects | Switch to a side-by-side view to see the presentation and the speaker at the same time;<br>Move the language directionality bar. |
| Host/co-host collab-oration | Being also co-host to have more privileges in interactive meetings (switching attendees' mic on/off). |
| Attendees-related as-pects | Where possible, switch the interpreter's webcam on for better understanding from the attendees. |

A key practice is maintaining a secondary private channel for communication with col-leagues, preferably using a second device or double screen (Chmiel & Spinolo, 2022). This setup enhances concentration, avoids distraction, prevents unintentional clicks on the Zoom interface, and provides an alternative in case of technical issues or emergen-cies. It also allows interpreters to secure a private channel for effective collaboration, as relying solely on Zoom's inflexible chat feature is unsafe and inconvenient.

Utilizing video communication systems on a secondary device can improve inter-preter collaboration by adding a visual element, allowing for non-verbal communica-tion without relying exclusively on typed chats. The use of a webcam on the secondary device can make the complex handover passage smoother since it is easier to see the boothmate switching their microphone on and off and starting or stopping speaking.

When it comes to listening to the active boothmate, Zoom made this technically pos-sible with its 5.9.6 release. However, both groups analyzed in the case studies high-lighted issues with this operation due to the lack of balance or cross-fade between the floor and the boothmate's volume. To address this, the use of a virtual audio mixer for audio input balancing is recommended[5].

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[5]  Among the most frequently used virtual mixers is Voicemeeter for Windows and Audio Hi-jack for Mac (https://vb-audio.com/Voicemeeter/ and https://rogueamoeba.com/audiohijack/) [last visited March 2023]

Remote prompting is another crucial aspect of booth collaboration: this can be done through shared documents allowing real-time collaborative modifications, private channels (text chat) with the boothmate, or virtual blackboards replicating the traditional notepad interpreters share in physical booths.

Regarding visual organization, activating the "side-by-side view" feature in Zoom allows interpreters to see the presentation and speaker simultaneously, adjusting their size as needed (*ibid*.). The Zoom 5.13.5 update enables interpreters to move the language directionality button for better slide visibility.

The final set of best practices is organization-related and attendee-oriented. Making interpreters co-hosts can help manage attendees' microphones in case of emergency, as hosts may not always be able to mute microphones immediately. Many participants in both case-study groups reported that it is sometimes difficult for the main host/co-host to mute unintentionally activated microphones, which may interfere with the active interpreter's understanding of the main speaker.

Lastly, Zoom is one of the few platforms that allow interpreters to activate their webcams when needed. In some types of meetings, the possibility for attendees to see the interpreter can improve their level of understanding of the interpreted speech (Cecchi, 2021; Amato et al., 2018). Implementing these best practices can enhance the RSI experience on Zoom, addressing its key limitations.

## 4    Conclusion: new skills, new working modalities, new challenges, new opportunities

The rapid shift in conference interpreting due to the pandemic accelerated existing technology-driven changes, impacting RSI practice and training. However, research has struggled to keep pace with innovation in working modalities and technology solutions. This paper examined Zoom, an unspecific video-conferencing system, which has become widely used for RSI despite not being designed for it. The study explored Zoom's use from the perspectives of practitioners (case study n. 1 – CPD) and interpreter trainers (case study n. 2 – academic training).

The findings highlighted issues and best practices in using Zoom for RSI, emphasizing the need to adapt the platform to interpreters' needs and explore its technological challenges and possibilities. The study revealed the necessity of acquiring new skills and adapting to hybrid additional services, such as subtitling, transcription, voice-over, minutes drafting, and respeaking. These skills impact practitioners' service delivery and professional development, making them crucial for interpreter training. Integrating these technology-driven changes into academic curricula is essential to address the unprecedented shift in the profession.

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