INSIGN

INTERIM REPORT

JULY 2014

1 Glossary

Term	Meaning
VRS	Video Relay Services.
VRI	Video Remote Interpreting.
HoH	Hard of Hearing.
RC	Remote Captioning.
RCS	Remote Captioning Service.
RI	Remote Interpreting.
QoS	Quality of Service i the ability to provide different priority to different applications, users, or data flows, or to guarantee certain leve of performance to a data flow.
RUP	The Rational Unified Process (RUP) is an iterative software development process framework. RUP is not a single concrete prescriptive process, but rather an adaptable process framework, intended to be tailored by the development organizations and software project teams that will select the elements of the process that are appropriate for their needs. RUP is a specific implementation of the Unified Process.
SVN	Subversion, an open source version control system.
ACD	Automatic Cal Distribution.
AEL	Asterisk Extension Language. AE is specialized language intended purely for describing Asterisk dial plans.
SIP	Session Initiation Protocol. The protocol defines the messages that are sent between endpoints that govern establishment, termination and other essential elements of a call.
SIP STACK	Source code that manages SIP protocol.

T140	Real time text standard defined i RFC4103.
SLA	Service Level Agreement.
BMC	Business Model Canvas i a visual chart describing value proposition and other essential elements of business model.

INSIGN

2 Contents

3 Project data sheet

"Insign Project, accessing communication for Deaf and Har o Hearing citizens to the European Institutions"

Project Identification: JUST/2013/RTSL/PR/0015/A4 - Pilot project for improving the communication between deaf and Hard of Hearing persons and the EU institutions

EC Service Contract Number: No. JUST/2013/RTSL/PR/0015/

EC Project Officer: Tania Tsiora (DG Justice, Unit of Rights of Persons with disabilities**)**

Insign Project Coordinator: Mark Wheatley

Contract Signature Date: 5th December 2013

Project Duration: 12 Months (5/12/13 to 5/12/14)

4 Project background, project objectives and expected results.

4.1 Project background

Within the member states of the European Union there are almost 1 million deaf and Hard of Hearing citizens. This collective has currently no direct communication access to the Members of the European Parliament, European Commission and/or administrators of the institutions of the European Union.

In order to contribute towards overcoming this lack of communication, the European Commission launched the one-year Pilot Project to improve the communication between deaf and Hard of Hearing citizens and the EU institutions.

Insign Project consists of creating a web-based application that will provide Real-Time interpretation by utilising the main communication tools used by deaf and Hard of Hearing citizens; namely, national sign languages and captioning.

On 9th April 2014, after only four months from the signature of the contract with DG Justice, a live demonstration of this innovative platform has been held at the European Parliament. The Insign Consortium succeeded in demonstrating it before the European elections of May 2014 in order to promote the political participation of deaf and Hard of Hearing citizens and to share the good results made up from the Insign Project.

Deaf sign language users and Hard of Hearing citizens were able to contact different MEPs through the innovative Insign communication platform. Participants had the option to call via a sign language interpreter or real time captioning through the online accessible web-based service platform, which is still at development phase.

4.2 Project objectives and expected results

The overall objective of the project is to contribute towards the political participation of European deaf and Hard of Hearing citizens, through direct access to the European Institutions.

Its specific aim is to develop and ensure a sustainable web-based platform that will provide Video Relay Services (VRS), Real-Time Remote Captioning and Video Remote Interpreting (VRI).

Listed below are the expected results to be delivered through the execution of the contract:

- **Tas 1: Review o current practices**

  Led by HWU, a large-scale survey has been produced taking into account all relevant literature, peer-reviewed published researches, policies and technological reviews available in English in relation to the provision of access to information. Moreover, best practices for video remote interpreting, video relay services, captioning and re-speaking services worldwide have been analysed. Users' surveys have also been conducted with Deaf and Hard of Hearing people, interpreters, respeakers and representatives of the European Institutions about their general experiences on text or video-based telecommunications services and the need for a service such as Insign, with follow up interviews sample of the users' survey i available in **Annex A.I**

- **Tas 2: Description of the Platform**

  Led by IVèS, the description of the platform aims to demonstrate the setup of a technical platform to provide VRS, VRI and captioning. Deaf and Hard of Hearing users as well as sign language interpreters and captioners are involved in the development process, providing feedbacks, which will help to enhance the Insign service.

- **Tas 3: Description of the interpretation Service**

A detailed description of the interpretation and captioning service, including quality standards, has been delivered by efsli, as leaders of this task. Tailor made training packages have been designed to ensure that the interpreters and respeakers/captioners are competent and able to deliver a quality communication service. In addition, business models and potential booking and billing systems will be described.

- **Tas 4: Demonstration of the Platform**

IVèS will work on the preparation of the second demonstration of the Insign Platform to be held in September 2014 at the European Commission's premises. On the basis of the experience at the European Parliament in April and in the Ambassador's Demonstration in May 2014, IVèS will improve, test and customise the existing djanah platform in order to reach the best performance. Furthermore, Heriot-Watt University will complete the analysis of data collected at the first demonstration in April 2014 in terms of the efficacy of communicative interactions through calls made, and will be present to observe, collect and analyse the data on the nature of communication at the previously quoted Ambassador's demonstration in Athens and the final demonstration in Brussels in September 2014.

- **Tas 5: Conceptualising a sustainable platform**

Designit, the leader of this task, aims to assure a user-based design approach in order to guarantee the sustainability and full participation of various stakeholders in the development of the project in general and the business model definition in particular.

- **Tas 6: Project management:**

The management team led by EUD takes care of the Insign Project Management. Its aim is to ensure the quality of the tasks, the activities of the project and that deliverables, are met on time, whilst making sure the service design approach is maintained through the project with the supervision of the consulting firm Octopux Consulting.

5 Purpose of this Interim report

The purpose of this Interim report is to inform the European Commission and the members of the Insign Consortium about:

- The progresses achieved from 29th January to 5th May 2014.
- The planned activities for the forthcoming six-month period.
- The successes and challenges faced in the implementation of the project.

6 Activities and proceedings of the next Insign project period

The activities of this second period are summarised here below:

- **Task 1 Review of current practices**

The review of current practices is primarily complete (see Annex A.I and section 6.1 below). The literature review document is a work in progress and HWU plans to update the literature review according to the project progress. The final version will be included in the Insign project Final Report in December 2014.

- **Task 2 Description of the Platform**

IVèS, as task leader, will continue to be responsible for the development of the platform. Taking care of the technical improvements the platform needs, taking into account the outcomes and feedbacks obtained after the first demonstration (9th April 2014) and provided after the Ambassador´s demonstration in Athens. Furthermore, IVèS will adapt and customise the end user interface (website, Android, iOS app) with the collaboration of Designit to meet the needs of the stakeholders.

- **Task Description of the interpretation service**

As leaders of this task, efsli will develop specific training packages specially targeted at interpreters and respeakers/captioners and a full description of the service provision, including business models, quality and professional standards for providers, interpreters and respeakers/captioners.

- **Task 4 Demonstration of the Platform**

IVèS will work on the preparation of the two remaining demonstrations of the Insign Platform to be held in Athens in May and in Brussels in September 2014 at the European Commission´s premises. Based on the experience acquired in the first Demonstration at the European Parliament in April 2014, IVèS will improve, test and customise the existing djanah platform in order to reach the best performance.

- **Task 5 Conceptualising sustainable platform**

Once all the necessary information and outcomes are collected, Designit, as leader of this task will define a business model of the platform, through specific collaborative methodologies, including potential stakeholders in the process, assuring user-based design approach.

- **Task 6 Project Management**

EUD, leading this task will undertake the main activities, which will be to continue managing, supervising the different tasks, the work of the partners and the implementation of the project in this second phase. Presenting all the gathered information in the Draft Final Report.

The activities of the second Interim reporting (5th May- 5th December 2014) period are described below:

6.1 Task 1 Review of Current relevant communication practices, VRS/VRI technologies and service provision

6.1.1 Objectives

Heriot-Watt University and Designit worked closely together to design a review of current practices that would encapsulate existing information and also user perspectives. Task 1 focused on gathering information in the lead up to the first Demonstration at the European Parliament in Brussels on 9th April 2014. Tasks were divided according to areas of expertise, although members of the Designit and Heriot-Watt teams had regular meetings to provide support to one another and exchange information. Representatives from each team also liaised regularly with the project partners through Basecamp in order to advise on progress and seek advice or support. The objective of Task 1 was to conduct a review of current practices through desk research and user research.

6.1.2 Methodology

The review of current practices was conducted in two ways:

1) Desk research: analysis of the existing literature on text and video-based telecommunication services for Deaf and Hard of Hearing people worldwide (HWU);

2) User research: analysis of user surveys and interviews conducted in English and International Sign to Deaf and Hard of Hearing people, interpreters, respeakers, and European Union Representatives to gauge/valuate their general experiences and practice with text or video-based telecommunications services and to emphasise the need of a service such as Insign. HWU developed the multilingual survey for Deaf users and Designit focused on interpreters, respeakers and European Institution users. Moreover, follow up interviews were conducted with a sample number of each respondent group.

6.1.3 Deliverables

The information and outcomes obtained during the Desk and User research have been collected by HWU in a literature review: **"Access to telecommunications for Deaf and Hard of Hearing people worldwide: An overview"** (An Executive Summary of the literature review focusing on the key issues i provided and available. (see **Annex A.VI**).

This version of the literature review is not the final one, because it is strictly connected to the outcomes and results achieved during the Insign Project. A final version will be included with the Final Report to be delivered in December 2014.

In addition, a detailed report of the quantitative user survey results and a summary of the qualitative interviews have been compiled into a report by Designit and HWU (see **Annex A.VII**).

The full literature review and user survey results will be shared with all Insign Consortium partners (SignVideo, IVèS, efsli, Designit and EUD) in order to ensure good communication about the activities performed until now in Task 1 and the ones to be achieved in the coming months. The review of current practices will guide the further development of the platform and service for

the implementation scheduled for the Ambassador's Demonstration in Athens in May 2014 and the second demonstration at the European Commission´s premises in September 2014. It will also be useful to improve the training of interpreters and respeakers and to ensure the sustainability of Insign.

HWU, as leader of Task 1 has been investigating how current technologies are used as a solution to meet the needs of Deaf/HoH and it's effectiveness from a user's perspective. The findings from the Literature review, two online surveys and interviews suggest that Deaf and Hard of Hearing people and interpreters are comfortable with web based technologies, would welcome the expansion of VRS/VRI platforms, however, there are concerns with how the technologies are managed, actual experiences is not always satisfactory and reliability of the platform is a concern. Interpreters & users both experience difficulties with network reliability, video/audio quality and how to communicate effectively from two distinct locations.

In addition, as part of the Literature Review, Section 6 Policies & Practices (work in progress), HWU has been producing a Global matrix to better understand the types of VRS services that are in existence and how they vary. This includes a description of the platform, operational hours, additional features (e.g. apps, Direct dialling, incoming/outgoing calls).

As leasers of this Task, HWU considers SignVideo and IVèS to be the experts who can best advise the European Commission on the technical description and requirements of the platform.

6.1.4 Calendar

According to the project calendar, the activities of Task 1 have all been accomplished.

Task/Sub-task	Activities	Deliverable	Timeline
Task 1.1: Review of current practices	Desk research: Literature/ policy/ technological review, European Union provisions User research (surveys): Questionnaire & follow-up interviews in IS with deaf people	Literature review Combined report (lit review & survey findings)	January February - Early March
Task 1.2: User Research	Communicative evaluation of demonstration User experience research	Task 1 report Task 1 report Demo 1 preliminary report Demo 1 and dissemination report Final report Academic papers	Mid-Feb Early March En April Mid-July Mid-Nov En project

6.2 Tas Description o the platform

6.2.1 Objectives

IVèS objectives for the Insign platform are to improve the reliability and usability of the platform within EU institutions context and the multilingual interpretations in order to reach required quality of service excellence. From this perspective the platform will be enhanced with two new features: the booking of the Sign Language Interpreters, Video Remote Interpreting and Video Relay Service for deaf and Hard of Hearing citizens.

The *booking management tool* will enable the user booking capacity on PC, Mac and mobile devices, and also a specific notification engine that will send an email to the sign language interpreter to let him/her know there is a call in hold. The availability range of sign language interpreters and the possibility of booking VRS appointments in order to call the European Institutions will also be included.

The iOS and Mac applications will be technically strengthened, in order to be more stable and easy to use. The software for both applications will be based on the same source code as the Windows and Android version in order to lower the cost of maintenance.

6.2.2 Methodology

IVèS will focus its developments on the input received from the research carried out by Heriot-Watt University and Designit in Task 1. All the outcomes collected from the first demonstration and the ones that will be delivered after the Ambassador´s demonstration in Athens (May 2014) will be fundamental in order to enhance the platform and mobile applications robustness and ergonomics.

Any change or addition of functionality will be managed in conformity with RUP@EC development case.

Insign platform – What has been done

To create the Insign platform, the starting point for IVèS was the existing djanah-based platform. In order to fulfil the Insign requirements, a series of adjustments and developments on the platform were made:

Queuing System:

The queuing system manages the interpreter and respeakers availability in the Insign platform. Through this queuing system, the ACD redirects the call to the required interpreter or respeaker.

Two queue prompts have been released, in consultation with the Consortium members;

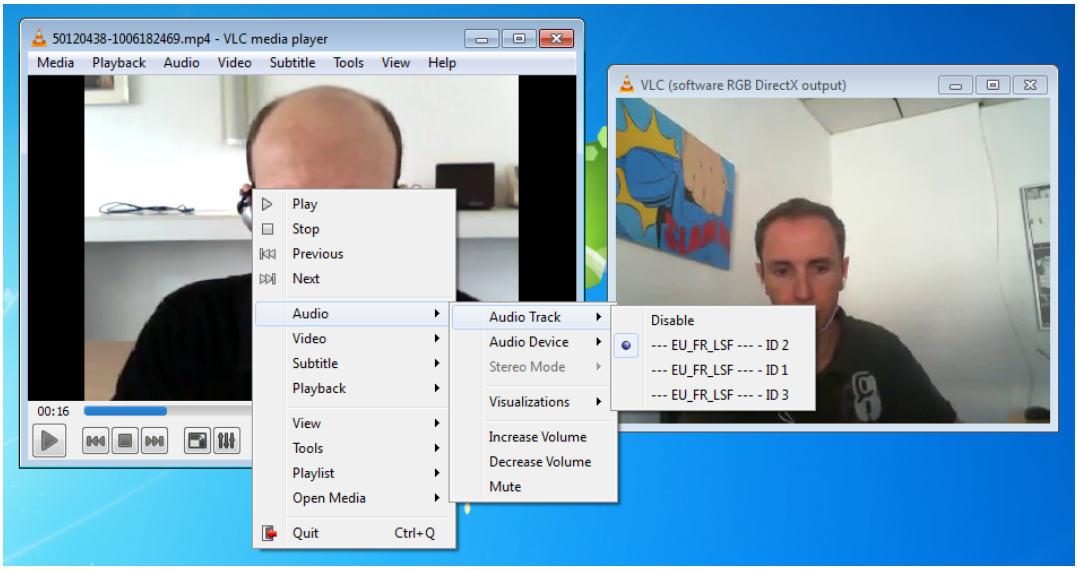
1) An International Sign welcome and queuing video prompt for sign language users and;
2) A T140 English welcome and queuing text prompt for Hard of Hearing users.

The prompts indicate that the user has reached the Insign platform and that the call will be treated as soon as an interpreter or respeaker is available.

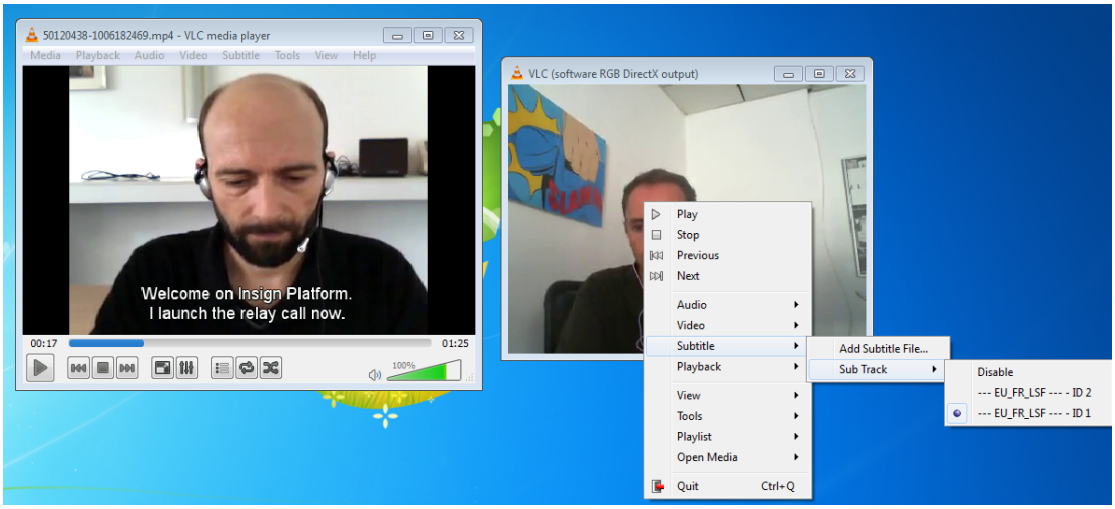
Calls recording for user experience analysis:

For research purposes, only during the demonstration, every call was recorded. A new functionality was provided in the ACD, allowing the server to record each call. The conferencing module (app conference) was modified and upgraded to add the total conversation recording function. This function allows to record all three media features (audio, video, text storing them into a MP4 file and in the Insign ACD server director. To facilitate the analysis, the recording of the participants and of the media features, are made separately. Access to the MP4 files has been set through a login/password-protected webserver pointing to Insign ACD server videos directory.

During the 9th April demonstration at the European Parliament and the Call recording session, 69 videos were recorded, representing approximately 300 minutes for 1,5 Gigabytes. All participants were informed and signed a consent form to enable the recording, only available for research purposes, and performed during the day of the demonstration.



Screenshot 1 Call Recording example-audio track selection



Screenshot 2 Calls recording example-T140 texting track selection

Statistics an Monitoring:

Perl scripts have been implemented in order to link Insign ACD with the Queue Metrics Software, leading to access of 150 metrics. This has been done so as to evaluate the impacts of metrics dashboard reporting.

Insign dedicated domain name:

A domain name was bought in order to be coherent with the project name itself; *eu-insign.eu*

Three websites no have a dedicated domain name:

1. The dissemination website: www.eu-insign.eu.
   It is a web in English and International Sign that focuses on spreading news about the Consortium partner´s activities and the Insign platform´s evolution.

2. The Insign relay centre: http://relaycenter.eu-insign.eu.
   The access to this platform is password connected. Each interpreter´s account is configured to enter one communication mode queuing system. The Consortium has enabled a password to allow access for EC staff.

   Login: ec-insign-agent-IS
   Password: insign2014

3. The *Insign Click To Sign* is accessed by http://directcalls.eu-insign.eu It is a web application that allows a deaf or hard of hearing person to contact the European institution of choice, selecting the adequate communication mode. This application is available on Mac OS, PC and mobile. It transmits and manages audio, video and real-time text between users, including relayed telephone calls. To manage the interoperability between most Oss. The user is provided as a web interface through a browser plugin to use with Mac OS and Windows, as well as Android and iOS applications. Both web plugin and mobile applications have an embedded SIP stack that manages the communication protocol.

If the interpreter is not connected, the call will be directed to the queuing system.

This website will evolve taking into account the UX-UI experience and iteration process, until the version to be presented in the September demonstration is satisfying for the stakeholders.

In the next delivery of mobile applications mid-July for Android and early August for iOS, the user will no longer need to connect the Click To Sign website through a browser. The application will embed the selection interface.

Both http://relaycenter.eu-insign.eu. and http://directcalls.eu-insign.eu. are accessible sites, but the Consortium has decided to activate them only during the demonstrations, in order to avoid confusion to future users on the functioning of the platform.

TH USER WEBSITE

Click To Sign:

Insign *Click To Sign* is the website designed for the first demonstration for the deaf sign language and Hard of Hearing users. It is based on djanah relay call platform process.

In a djanah structural context, the user is called *person*. A change of terminology was required, users are now identified as deaf or Hard of Hearing.

The user can choose which Member of the European Parliament to call and also the mode (Sign Language-IS, BSL, LSF, MJNY, NGT, LSE - and English or French) of communication. The djanah process allowed the user to communicate using one mode, (IS, BSL or LSF). For the Insign platform IVèS has customised the back office, and introduced the skill notion, in order to assign language skills to the user´s account. (The MEP´s account).

The Insign project requires users to be able to choose to converse with an MEP in six different sign languages (IS, BSL, LSF, MJNY, NGT and LSE) and two spoken languages (English and French) In this way, the administrator can assign one or more skills to one MEP account (cf. Annex)

Customisation through Service Design:

During the month of February IVèS developed the first model of the *Click To Sign* website user interface.

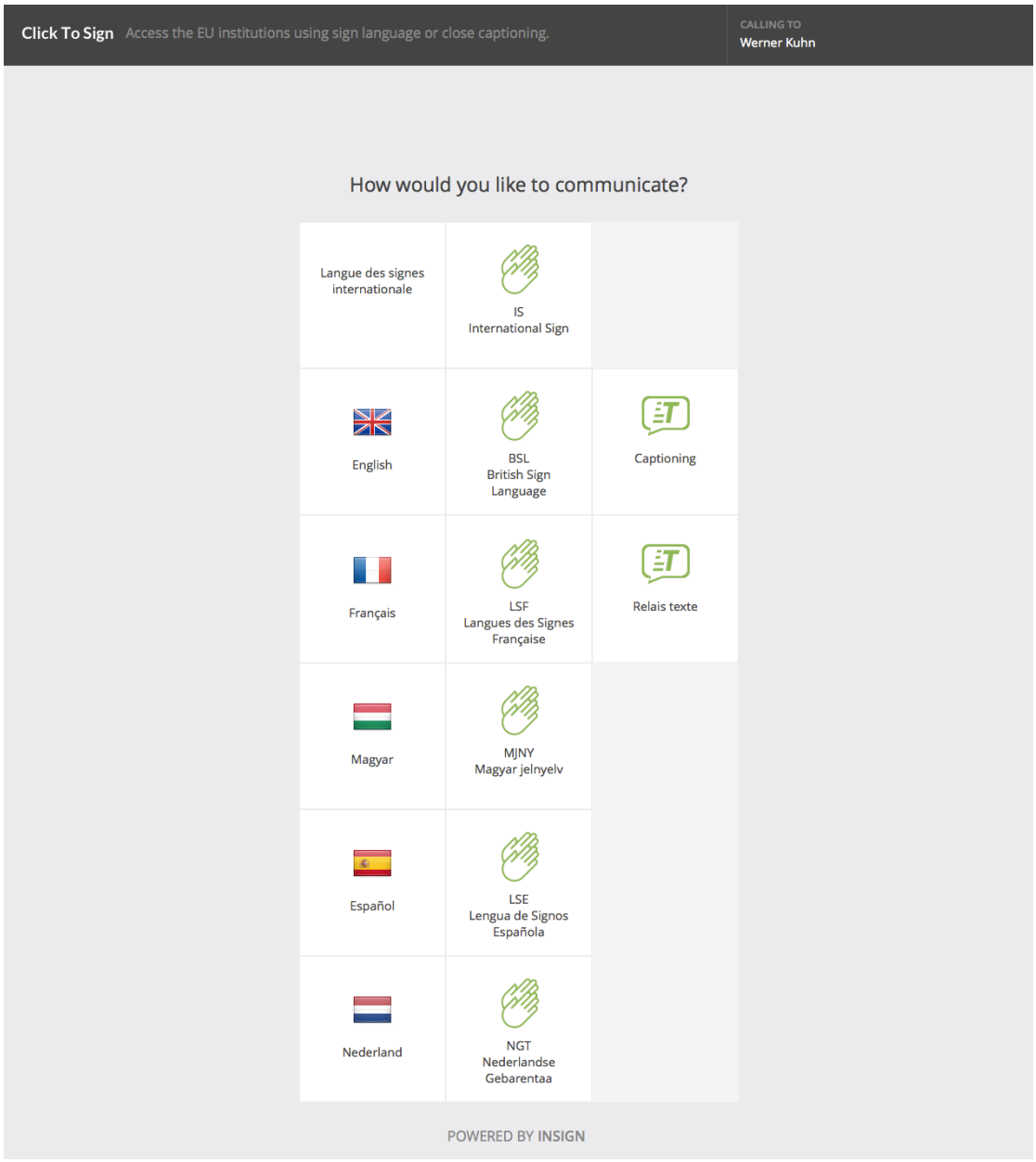
This model has helped to develop and test the functions of identification and skills assignment of MEPs accounts. Presented to the members of the Insign Consortium, the ergonomics were discussed and revised, as the natural language step selection was considered superfluous.

In the second phase, completed in early March, Designit proposed a complete re-design of the interface, also including the Total Conversation interface.

Due to a matter of time and development and it was decided to implement a mix between the first draft and Designit´s new design for the first demonstration in the European Parliament and the Ambassador´s demonstration. IVèS implemented these amendments in lat March.

At the beginning of April, IVèS implemented the involved MEP selection webpage as soon as EUD provided the final list of participating MEPs. For the purpose of the demonstration each website modification has passed the IVèS internal testing and validation steps before being moved on to production servers.

The user design and ergonomics included in the website will also be improved by user feedback study for the demonstration a the European Commission's premises in September 2014.



Screenshot 3 User Interface communication mode selection

MOBILE APPLICATIONS OF THE INSIGN PLATFORM

Android:

IVèS has developed an Insign dedicated djanah droid-based application re-designed which includes the Insign logo and colours.

From the month of February until the beginning of April, IVèS has worked on the mobile application, in order to strengthen the platform´s robustness. The improvements are documented below, per Versions:

Version 3.8.24

- Fix G729 codec.
- Fix rotation during 183.
- Fix screen lock landscape / portrait.
- Fix background application.

Version 3.8.23

- Insign theme added.
- Fix crash on long call.
- Fix size of image.
- Fix return of background application during video call.

Version 3.8.22

- Fix audio push / pull.
- Fix audio jitter.
- Fix h264 level nego.
- Suppress copyright o splash page.

Version 3.8.21

- Fix crash on quickly start and ACTION_BOOT_COMPLETED crossover.
- Fix return during connection with hash code.
- Fix end of call with hash code.
- Support RFC5168 (FIR over SIP).
- Fix end of application if sip stack not started.
- Fix name of configuration file by application.
- Add avpf negotiation.
- Fix logo o first start.

Version 3.8.20

- Fix theme management, by default use configuration.

Version 3.8.19

- Fix end of call by mime-type.

Version 3.8.18

- New stack support cpu type armv5 armv7 armv7-neon x86.

Version 3.8.17

- Fix video jitter.

Version 3.8.16

- Fix mirror and rotation video.

Version 3.8.15

- Fix network crossover event.

iOS

- The application is currently available in the djanah IOS version. SIP stac with Insign logo and colours.

On mobile devices, the user need to open a web browser and connect the Click To Sign website. After the selection process, the browser redirects the user to the store Android or iOS to download the Insign mobile application if not installed or directly launch the call using the application.

In the next delivery of mobile applications mid-July for Android and early August for iOS, the user will no longer need to connect the Click To Sign website through a browser. The application will embed the selection interface.

IVèS objectives for the Insign platform are to improve the reliability and usability of the platform within EU institutions context and the multilingual interpretations in order to reach required quality of service excellence. From this perspective the platform will be enhanced with two new features: the booking of the Sign Language Interpreters, Video Remote Interpreting and Video Relay Service for deaf and Hard of Hearing citizens.

The *booking management tool* will enable the user booking capacity on PC, Mac and mobile devices, and also a specific notification engine that will send an email to the sign language interpreter to let him/her know there is a call in hold. The availability range of sign language interpreters and the possibility of

booking VRS appointments in order to call the European Institutions will also be included.

The iOS and Mac applications will be technically strengthened, in order to be more stable and easy to use. The software for both applications will be based on the same source code as the Windows and Android version in order to lower the cost of maintenance.

NEX STEPS

IVèS is now in a reviewing stage, and in attendance of the Ambassador´s dissemination and feedback report. According to the user feedback studies, every software component (relay centre interface, user interface and mobile applications) will be improved when necessary. Actions to improve the platform will follow and every software interface will be internationalised.

Platform:

For performance and robustness issues, the open SIPS server will be replaced by a Kamailio SIP server.

When preparing and organising the Demonstration in the European Parliament, IVèS faced a relay centre deployment lack, due to a misconfiguration of two interpreter´s desktops. At present IVèS is setting a deployment process, which includes a spread sheet mentioning every computer administrator password in order to remotely take control for a fine live video web plugin adjustment for each computer network and hardware configuration. This procedure will be delivered before the second demonstration in the premises of the European Commission.

User Website:

A FAQ page will be implemented in order to answer main installation issues. The user will be able to contact IVèS support department for any related matter, if necessary.

The user website is available on PC, Android, Mac OS and iOS. Due to recent Mac OS and iOS development, the IVèS team experienced web live video plug-in problems. It i now planned to change the actual Mac OS and iOS SIP stack

to implement PC/Android SIP stack. This will also aid to improve the plugin maintenance.

Mobile Applications:

Insign IOS and Android applications will be available in the Apple Store and Android market. They are not available yet because the service is only accessible during demonstrations. The Consortium decided to leave them as in order to not confuse future potential users. They will be published by the end of July.

Both applications ca be downloaded at:

- IOS: http://download.ives.fr/insign/ios/Insign.ipa
- Android: http://download.ives.fr/insign/android/insign.apk

Users applications SIP stack

The user application is available on PC, Android, Mac OS and IOS. The PC and OSX plugin implements a proprietary France Telecom SIP stack whereas Android and IOS applications implements Doubango SIP stack framework. The fourth SIP stack did not evolve in parallel. The Android SIP stack benefits of the lasts developments (cf Customisation through Service Design: / c) mobile applications /android). The aim is to update OSX, PC and IOS sip stacks with the Android doubango SIP stack, benefiting of the Android stack' robustness and minimizing maintenance costs. Moreover, the OSX and IOS stacks encounters quite a few problems due to recent updates of the OSX and IOS operating systems.

The IOS doubango SIP stack has been updated during the beginning of May. The update of the others O will be implemented from May to August 2014.

6.2.3 Deliverables

Divided by sub-Task the expected deliverables will be as follows:

Task 2.1 - Server Deployment in the Cloud

- Virtual servers and server software licence;
- SIP trunk;
- Database capacity for users (unlimited) and interpreters/captioners (up to 1 concurrent calls);
- ACD, SIP proxy, MCU, Database, statistics software and monitoring service;
- Back office access;
- CDR access.

Task 2.2 - Total Conversation Call Centre Deployment

- Redundant standalone ACD (active and rescue);
- Redundant web server (active and rescue);
- Establishment of procedure for control of Relay Centres.

Task 2.3 - Licensing for Mobile App & Website

- djanah mobile application license (available for iOS and Android).

Task 2.4 - Maintenance & Supervision

- Support level 2 during business hours (CET Time);
- 24/7 support during a crisis situation (service outage, service degraded);

Task 2.5 - Hosting

- ACD, SIP proxy, MCU, Database, statistics software and monitoring service will be hosted in France.

Task 2.6 – Customisation through Service Design

- re-designed and customised user's website;
- An enhanced and rebranded mobile app;

- An improved Relay Centre web interface;
- Improved respeaking web interface (text relay).

6.2.4 Calendar

According to the established project calendar, some activities have been accomplished; others are on going until the end of the project.

Task/ Sub-task	Activities	Deliverable	Timeline
Task 2.1	Server deployment in the cloud	- Virtual servers and server software license; - SIP trunk (to manage outgoing calls) ; -Database capacity for users (unlimited) and interpreters (up to 10 concurrent calls) ; - ACD, SIP Proxy, MCU, Database, Statistic software and monitoring service; - Back office access; - CDR access.	January 24/Complete
Task 2.2	Total conversation call centre deployment	- Redundant standalone ACD (active and rescue); - Redundant web (active and rescue) -Deployment UK - Establishment of a procedure for control of Relay Centres. -Deployment Hungary, Holland, Belgium and Spain -Testing and Bug fixing	January 31/Complete April 15 May 15 August January to August
Task 2.3	Licensing or mobile app & website	-djanah mobile app license. Application available in djanah version. - iOS and Android Insign Application available on the market	January 18/Complete July 9
Task 2.4	Maintenance & supervision	- Support level 2 during business hours (CET); - 24/7 support for crisis situation (service outage, service degraded).	January to December
Task 2.5	Hosting	- ACD, SIP proxy, MCU, Database, statistics software and monitoring service hosted in France.	January to December
Task 2.6	Customization through Service Design	-Rebranded and customised user's website; - Android and IOS mobile	March April 1

		applications: First basic redesign - Android Insign dedicated application mock-up with integrated Insign Home page - User website redesigned according to UX/UI focused testing - Android/IOS Insign dedicated application redesigned according to UX/UI focused testing - Improved Relay Centre web interface; - Improved Captioning web interface (text relay).	July 9 August 15 September 1 July 15 September 1

6.3 Tas Description of the interpretation Service

6.3.1 Objectives and Methodology

Tas Description o the interpretation Service

Task 3, led by the European Forum of Sign Language Interpreters (efsli) with the cooperation of Heriot-Watt University and SignVideo, has already taken several steps in describing the interpretation and captioning/re-speaking service of the Insign platform.

Sub-task 3.1. Review and redesign of interpreter and captioner standards.

The basis for the design of the interpreter standards is the literature review Heriot-Watt University has conducted during the first months of the project, of which a first draft was shared with efsli on 16th April 2014. This research covers an overview of telecommunication systems, user experiences (of the different services), interpreters' experiences of working via video (and from remote settings), re-speakers' experiences, analysis of the quality of the interpreting and re-speaking service provided for the April demonstration as well as policies, guidelines and recommendations.

In addition to the HWU report, efsli has already conducted an online survey amongst all of its full members (31 national and regional associations of sign language interpreters across Europe). The aim of this survey was to gather information about VRS/VRI and re-speaker/captioning service providers in their respective countries. The survey has been sent twice, once at the end of February and a follow up, sent in mid-March. To date more than 20 associations (Austria, Belgium-both the Belgian-French and Flemish sign language associations-, Czech Republic, Denmark, Estonia, the Netherlands, Finland, France, Germany, Greece, Hungary, Italy-two national associations-, Iceland, Norway, Poland, Romania, Serbia-two national associations-, Slovenia, Spain, Sweden, Switzerland and United Kingdom-two national associations-) have responded to the survey. Four of the associations responded that there were not services providers in their own countries. The rest provided a list of service providers, information about the number of years the service have been running and also information about the existence of working groups and guidelines written by the associations or national public bodies o VRS/VRI and re-speaking/captioning professional standards.

One of the preliminary outcomes of this survey is that a significant percentage of service providers have been established within the past two years. This is relevant because efsli had planned to conduct qualitative research into service and professional standards with services that have at least three year's experience. As for the business models, efsli will send the survey to all the services providers listed by the national associations of sign language interpreters, regardless the time the service has been running for.

efsli is now designing the research questions and methodology to be used with these organisations. The aim will be to find out as much as possible about:

- Type of service provision (coverage, uptake, domains covered or not covered, e.g. medical, legal, educational, social, etc., average length of calls, etc.)
- Working practices (advertising, day-to-day management, times service is available, shift patterns of interpreters/re-speakers, number employed, availability of supervision, etc.)
- Professional standards (minimum qualifications of 'operatives', specialist training/CPD available and/or required, codes of practice and/or guidelines for interpreters and re-speakers (and for service a a whole, e.g. data protection/confidentiality policies, etc.)

- Business models (including booking and billing systems)-see sub-task 3.4 for further information
- Problems encountered, e.g with setting up of service, recruitment of interpreters/re-speakers, publicising the service, etc.

Service providers will be contacted during May by email and/or telephone/Skype to collect the information required. The first draft of the interpreting and captioning standards will be prepared by the end of May, and selected service providers will be asked to pilot their functionality in their existing services during June. Their feedback will be used to amend as appropriate.

One of the challenges of this sub-task i the collection of information about re-speakers. Re-speaking services are not widely available across Europe for remote or relayed 'live' communication events and the term "re-speaker" itself has proved not to be clear for some of the organisations consulted. The service will need to be explained more fully in future surveys and reports.

Sub-task 3.2 Training of interpreters and captioners

As a precursor to developing the specialist training courses for interpreters working in VRI/VRS services, it was agreed that efsli would observe the short (3-day) course provided by SignVideo to the interpreters taking part in the first demonstration at the European Parliament. Two efsli staff members, the Head of Training and the President (both very experienced interpreters) took part in the course held at the SignVideo premises in London (from which the service was provided during the European Parliament demonstration). The training comprised a balanced mix of theoretical issues, explanations of the service, the types of calls expected, procedures for starting and ending calls and, on the morning of the third day, practical 'hands-on' experience of interpreting video calls.

Particular note was made of the need to regulate turn-taking in remotely interpreted conversations and the importance of the interpreter participating in the interaction by signalling understanding to both parties through 'simultaneous feedback'.

The training, designed by Helen Fuller, SignVideo's service manager, was clearly effective and, at first sight, the service provided by the interpreters for the demonstration was very competent (efsli have yet to see Heriot-Watt's

appraisal/analysis of the quality of interpreting provision during the event). Of importance is that the interpreters attending (from France, Spain, the Netherlands and Hungary) were fully trained and qualified interpreters and only two (the Hungarian participants) had no previous experience of interpreting vi video link.

The issue that efsli has to take into account is that, in some countries, the same level of formal training is not available and the specialist training might not, in itself, be enough to guarantee a high quality of service provision. Working on the assumption that, even in those countries, the signed language - spoken language interpreters will be fluent in their respective sign languages and experienced in interpreting, two versions of the training will be made available. One will concentrate just on the specific requirements of working remotely while the other will include additional time to discuss more general areas of interpreting knowledge or practice that might not have been previously addressed. efsli will pilot the training course for not fully trained interpreters in Malta (24th-27th June) and the training course for fully trained interpreters will take place in Toulouse (30th-31st August) with the team of interpreters that will participate some weeks after in the second demonstration of the Insign platform in September. The team shall include different interpreters from those that attended the first Insign training in London

The initial training for the respeakers was provided by Roehampton University in London, which has a department that specializes in the training of subtitlers and live captioners. It was intended that the Hard of Hearing callers using the service would use their own voices and the responses of the MEPs and others dealing with their calls would be live captioned so that the Hard of Hearing caller could read the responses in real time. In the event, the Hard of Hearing callers typed rather than spoke; so the system wasn't tested in the way that was intended. Whilst it is clear that there was a misunderstanding on the part of the callers, it does underline the need for the respeakers to be trained to cope with a variety of communication configurations. efsli is now reading the comments of Heriot-Watt University and will be able to use these observations as a basis for the training course(s) necessary to develop the training. efsli is now contacting the organisers of the University of Roehampton course to arrange discussions on the additional training required. This will also inform the research into the availability and needs of resepakers across Europe, as there was, obviously, a misunderstanding about

the meaning of the term and the role of captioners while handling live dialogues from remote locations. efsli will also be working closely with the Heriot-Watt team to identify the causes of the problems and ways of addressing those.

Sub-task 3.3 Developing an educational package

Work will start on the design of the educational packages for the various users as soon as the service and its uses are more clearly defined. The three target groups are:

- Service providers
- Service users
- E institutions

To accomplish this task, efsli will work closely with Heriot-Watt University and SignVideo (content), EUD (access to and needs of deaf service users) and Designit (sustainability). The three packs will be piloted with representatives from the three groups to test usefulness and user-friendliness. efsli´s initial thoughts are that the packs would be web-based, which would allow them to be easily accessible, specifically targeted and easily updated. The target date for piloting the materials i September 2014.

Sub-task 3.4 Defining booking and billing systems.

A wide diversity of business models can be found throughout Europe. As mentioned under sub-task 3.1, an extensive list of service providers has been already collected among efsli full members. All of them will be addressed with a survey that aims to collect information about their business model and their booking system, as well as their professional standards (the standards part will be considered only for those with at least three years´ experience in the field) (see above sub-task 3.1).

The section of the survey focused on business models, booking and billing systems will have questions regarding the following issues:

- How interpreters and captioners are paid by the services providers (hours, type of calls, number of calls)
- The typical interpreter and captioner fees in the various countries

- How these services are funded (e. g. directly by public bodies, by charges levied on individual callers, etc.)
- By which organisation are they reimbursed
- Tools used to evaluate the effectiveness and efficiency of their systems and eas of use from both the user´s and the interpreter´s point of view
- Booking systems. i.e. ho calls are originated and whether the services are available to casual users or only to account holders
- Are deaf and Hard of Hearing users able to claim reimbursement for call made from their own devices (e.g. mobile phone, tablet, videophone)

Draft Billing Procedure

The Insign expenses for the billing system during the Pilot phase (one year contract) will be covered by the Insign Consortium. In order to design an effective billing procedure that can be adapted to the different existing business models across Europe, efsli will ask service providers (in the above mentioned survey) about their billing systems and collect information in this regards which will allow the Consortium to redefine and adjust the billing procedure described below.

The proposed billing procedure is now at a beta testing stage. At the moment SignVideo has started to use this system to create separate bills for its customers (companies and institutions that use the service) along the lines of bills created by telecom companies for their customers. The headings are yet to be finalised and currently i indicates the following:

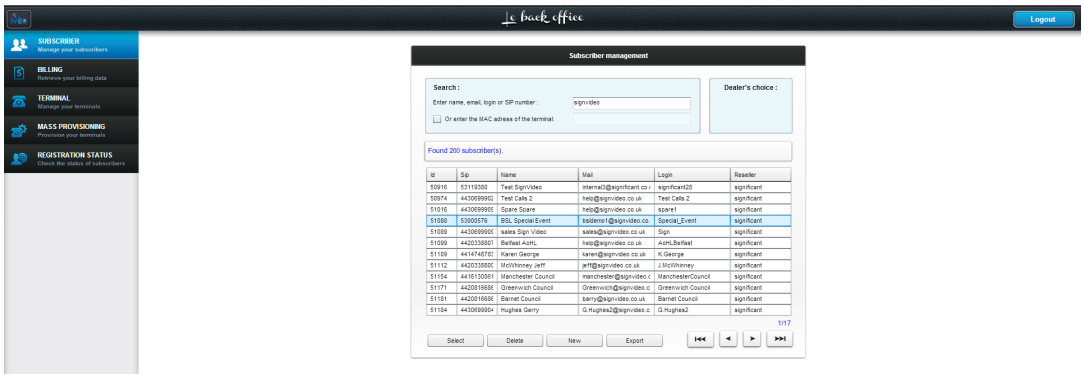
- Date of the call
- The number the call was made from
- Time the call was initiated
- The number called
- Length of the call
- The cost of the call

The monthly bill should emulate as closely as possible those generated by telecom companies for ease of understanding and analysis by service

providers who have signed up to a video relay service (VRS) or a captioned telephone servic (CTS).

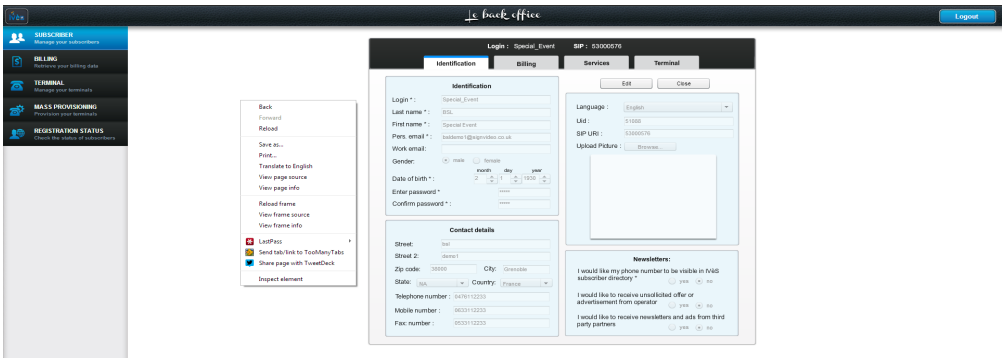
The following shows where the billing system is at this stage and the screenshots show the indicated procedure step by step.

The initial screen (after login) is illustrated in this screenshot below.



Screenshot 4 List of subscribers

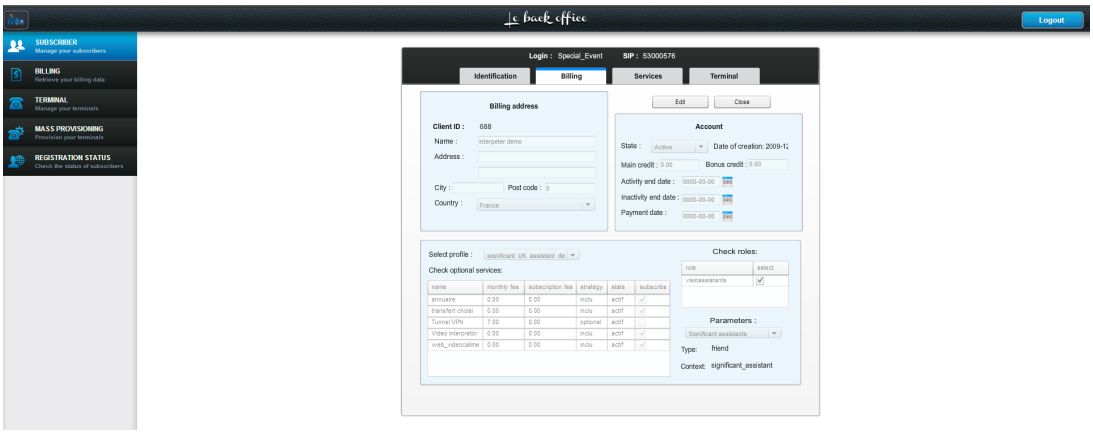
This shows the home screen where the VRS/CTS provider sees a list of its subscribers (the service providers who have contracted them). The person responsible for the billing types the name of the subscriber in the search box. This leads to a drop-down list of subscribers under that account. The next step is to select the specific subscriber (in this case the subscriber, “BSL Special Event”) an click on the select button to go to the next screenshot.



Screenshot 5 Subscriber details

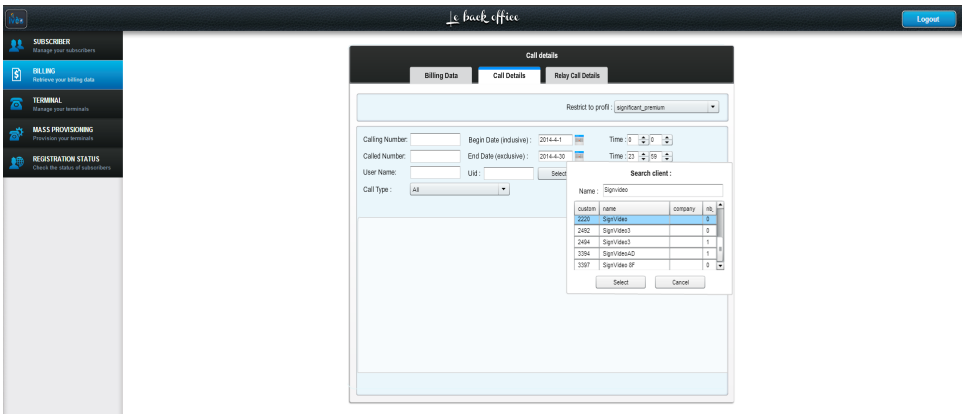
This screenshot shows the specific details of this subscriber to verify that this is the correct one. After this validation the next step is to go into the billing

details to check if the subscriber is o the correct tariff. This can be seen in the next screenshot.



Screenshot 6 details validation

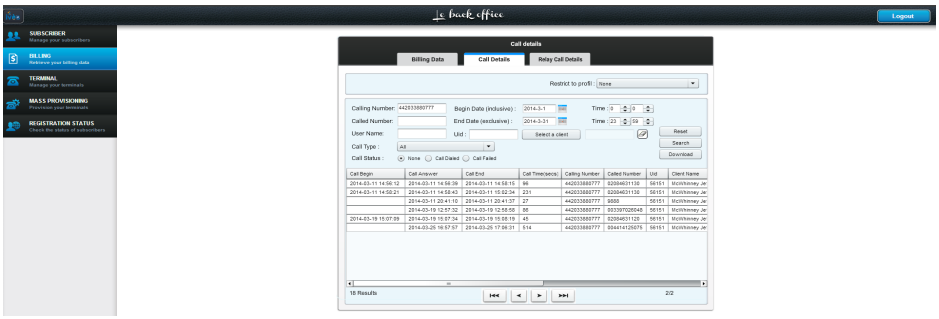
If the details are all validated then the billing tab on the left hand side of the screenshot is clicked on and it will bring up the Call details screen as seen below.



Screenshot 7 Subscriber options

This provides the following options if the subscriber requests it:

- The calls made by a specific phone/video number
- The calls received by specific phone/video number
- The calls made in a specific time period
- The time period could be focused o a period of a few minutes on a specific day or up to calendar month



Screenshot 8 Call data

The screenshot above shows (in column order) the details and data for each cal made.

6.3.2 Deliverables

efsli i working on the following deliverables:

- Detailed description of the service;
- Report outlining agreed service an professional standards;
- Training package for sign language interpreters with formal training;
- Training package for sign language interpreters without formal interpreter training;
- document setting out the pre-requisites for model booking system, model billing system and existing business models;
  Self-evaluation/professional development tools for interpreters working in the service.

6.3.3 Calendar

Task	Description	Collaboration	Timeline
3.1	Research into current published standards, policies, position papers, etc.	SignVideo, efsli members, efsli CoE	January to May
3.1	Pilot first draft of INSIGN standards with current providers	SignVideo, efsli members, efsli Committee of Experts	May to June
3.2	Research/training courses/packs currently available	Service providers, efsli members	February to May
3.2	Devise training for different situations in different countries	efsli members, efsli Committee of Experts	June to July
3.2 Pilot	Pilot training for volunteers via efsli workshops in two countries (one with formalised interpreter training, one with no formalised training or register)	efsli members, service providers	July and September
3.3	Develop educational package: how to use service, protocols, limitations, etc.	Service providers, HWU, EUD	June to October
3.4	Research and development of model booking and billing systems	SignVideo, other providers, efsli members, EUD	February to September (originally scheduled to end in April, this has been extended because of the different types of service provision across the member states and the resultant complexity of the

			task)
3.4	Evaluate business models, booking and billing systems	With partners	April to October
Task 3	Full, detailed description of all aspects of service: uses, quality of provision, prerequisites (availability of interpreters/captioners, levels of interpreter/captioner training available), training required, availability of service cover, practitioner/professional issues, working conditions, prerequisites/infrastructure required for sustainable service, possible development of service in each country (potential and limitations of remote/relay interpreting services)	In conjunction with academic (HWU), service providing (SignVideo) and consumer representative (EUD) partners. Technical specifications and requirements to be described by IVèS and Designit	April to October

6.4 Tas Demonstration of the platform to the EU Institutions

6.4.1 Objectives

IVèS, leads this task that consists of preparing and performing the demonstrations of the Insign platform, in the European Institutions presenting the results the servic has achieved so far.

The first demonstration was held in the European Parliament, Brussels on 9th April 2014.

The technical aspects and the logistics were discussed through Basecamp and arranged in full open discussion with other Consortium members, in order to inform on the progress and exchange information. Representatives from the Unit of Rights of Persons with Disabilities' from DG Justice have also been consulted regularly.

Two other objectives also result from this milestone;

1) To engage deaf and Hard of Hearing citizens in political participation, in relation to the upcoming May 2014 European Elections.

2) To allow HWU to evaluate the communicative interaction which took place between deaf and Hard of Hearing and European Representatives during the demonstration.

6.4.2 Methodology

Technical and logistics preparation

In order to connect the platform to the European Parliament´s network, previous preparation was necessary. On 17th March 2014 a meeting took place in the European Parliament in Brussels, with the objective of better organising the connection of the Insign platform and the demonstration. Consortium members met with EP DG Innovation and Technological Support (Mr Van Goethem and Mr Soudans), EC DG Justice (Ms Tsiora), SCIC (Mr Tait) EC DG Digit (Mr Panahandeh). Also present were MEP Kosa's assistant (Ms Zara) and the Insign project Administrative Coordinator (Ms Galán).

The topics of the discussion were:

- The possibility of a domain name from the European institutions, in order to include Insign accessibility web link in the MEP's home page.

- The network pre-requisites of the Insign platform. DG Innovation and Technical Support decided to provide an Ethernet connection for the day of the demonstration; corresponding to the Insign platform´s network prerequisites.

- The demonstration room setting and layout. Ms Zara, due to her previous experience coordinating accessible events in the European Parliament, provided requirements for sign language interpretation, DOH accessibility and Verbavoice´s needs.

Overall, it was a useful meeting that helped to set the bases for a successful demonstration. The co-operation shown from the various departments of the European Parliament allowed such positive results on the day itself. Most notably, the work of Mr Camparolas (EP Conference Technician) was important for the demonstration of this pilot project. Mr Camparolas and his team took part in detailed discussions regarding the demonstration room, settings and layout, listing the supplies needed to ensure audio and video I/O to display onsite and live stream the demonstration. Indeed, every aspect of the demonstration was conveniently planned before the day itself.

Arnaud Vanderbecq and Didier Chabanol from IVèS prepared the technical aspects for the Insign demonstration. Their work focused on the audio-visual services; including, managing projectors, overseeing film recording of the calls and ensuring good leve of sound quality on the conference room.

Test calls where performed-through the European Parliament´s Wi-Fi and wire network- to the Insign video call centre located in London, for this first demonstration. Interpreter desks were also tested.

Three tests were performed on site before the day of the demonstration:

- 17th of March: The Ethernet network was tested in the room of the demonstration (ASP A3-E2). Direct calls between Arnaud Vanderbecq (in Brussels) and IVèS support team (in France)–

showed an important audio/video packets loss on required UDP[1] and TCP[2] ports, due to a restrictive network configuration (NAT, Router, Firewall). When testing the GUEST-EU Wi-Fi network, direct calls showed crystal clear images with no packet loss. Examining results of the testing, it was decided to use the Wi-Fi network as a back u solution.

- 7th of April: The GUEST-EU Wi-Fi was tested. The network showed the same constancy as in the previous tests. It was then decided to use this network in the demonstration.

8th April: During the morning, further testing of the Ethernet network, configured by the European Parliament´s IT team took place in the conference room ASP A3-E2. Calls where not possible due to an inadequate configuration of the European Parliament´s network. IVèS then tried to connect the platform through a VPN connection but this VPN seemed to be misconfigured. In the afternoon, the Wi-Fi back up solution was tested, as room ASP A3-E2 wasn´t available. Due to the elevated number of visitors in the building of the European Parliament, the WI-FI signal showed too many bandwidth decreasing levels. Working in cooperation with the EP IT Team, it was decided to reconfigure the Ethernet with a public IP address, limiting the security equipment between the platform PC and the Internet cloud. IVèS encountered random problems in the call process. This erratic and dependent on the used network behaviour lead IVèS think the Parliament network specificities were the source of the problem. At the time of writing this report, the engineers are deeply analysing the un-precedent problems.

The analysis so far shows that the problems – primarily a failure of the communication when the interpreter answered the call – were due to the addition of the T140 notification before the caller entered the queuing system. This is a function that IVèS has established for the Insign platform, in order to extend the accessibility of the service. It is enabled through the Automatic Call Distributor's AEL dial plan. Shown on script by the command *sendText()* before the call enters the queuing system.

[1] UDP (User Datagram Protocol) is a communications protocol that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet Protocol (IP).

TCP is connection-oriented protocol. When an SIP message is sent, it will be delivered unless the connection fails. If the connection is lost, the server will request the missing part. The message will not be corrupted, as the TCP protocol only affects SIP protocol delivery but not media (text, audio, video) content

Adding this command in the AEL script brought unsteadiness of the communication process between the ACD and the interpreters and user´s plugin). The ACD sent bad information during the call initialization protocol, which led to a disconnection of the interpreter platform. This behaviour is detailed below:

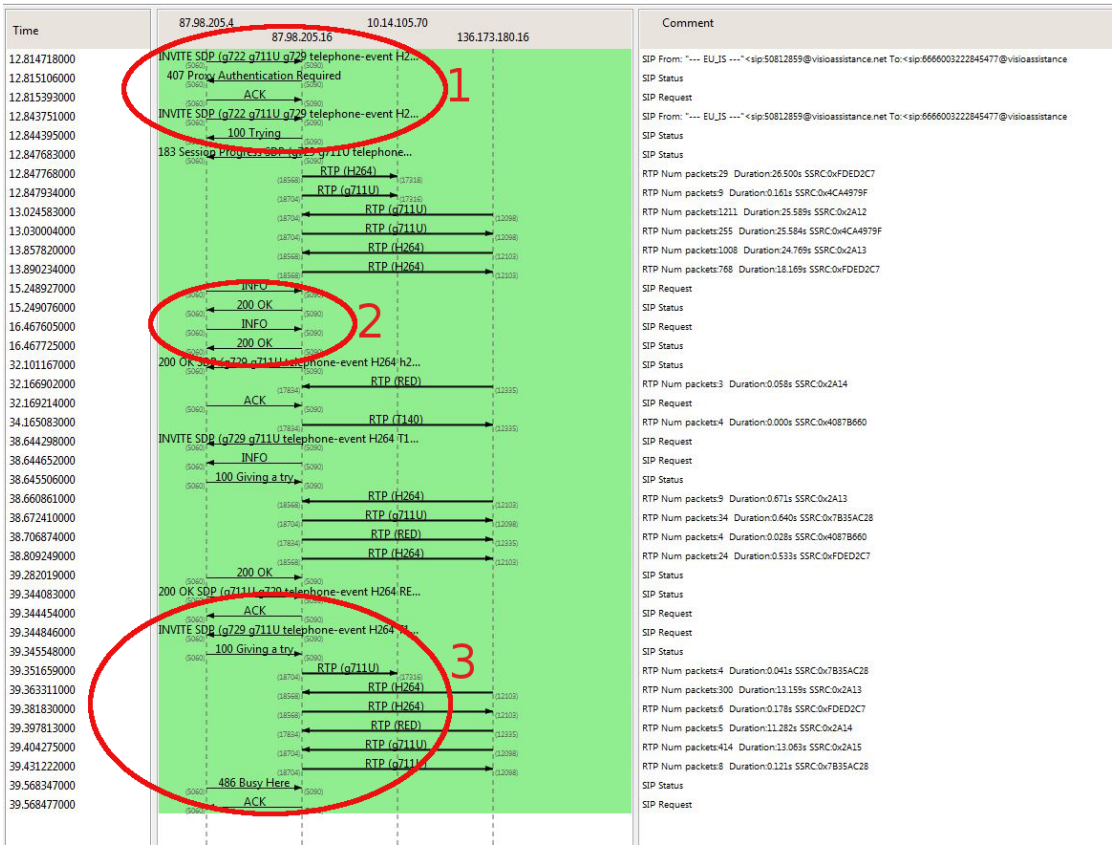
Whilst the call is in the queuing system, the call ACD status shown on the screen is is "`183 session Progress`". This status does not allow to send data between ACD and the caller. In order to allow the user's device SIP stack to receive the T140 notification, the developers have had to change the call status from a session in progress to an active call using a command represented as the `answer()` command before the sentText command:

The caller hears/sees the following text on the screen:

answer();

sendText(Welcome to the exciting new service provided by the European Union - the EU Insign service[…])

During the demonstration, this command spawned an unstable ACD behaviour.



Graphic representation of a network analysis during a call from the Ethernet Parliament network and Insign relay centre in London.

The above diagram represents the problem that occurred when the call was performed.

(1) The INVITE SIP message sent by the ACD to the caller's SIP stack is sent before the T140 notification message is displayed. The caller's SIP stack is then notified by his acknowledge (20 OK) to the ACD

(2)After the caller has entered the queuing system, the interpreter´s plugin notifies the user SIP stack that the interpreter has accepted the call (INVITE) but the ACD, because of the first INVITE request, considers that the caller as already in communication (486 Busy Here) and automatically terminates the call.

This problem is currently fixed but if the Interpreter is not connected to the platform through a Virtual Private Network, At present, the caller cannot see the T140 notification. IVèS is working on solving this issue before the deployment of the Insign relay centres in Holland, Belgium, Spain and Hungary for the second demonstration.

Outreach Work

David Hay, EUD´s Communication and Media officer, acted as an outreach agent, engaging European deaf and Hard of Hearing participants to make call and use the respeaker or VRS option.

Securing arranging the schedule of the Members of the European Parliament to the callers whilst respecting the Sign Language interpreter´s was challenging. Specially respecting the established protocol of Sign language interpreters, concerning designated break times

42 MEPS in total, belonging to different political parties accepted to take part and to receive a call.

9th April Demonstration

For the benefit of the demonstration, the most appropriate way to achieve over 90 minutes of calls was debated with all the Insign Consortium members, taking also into account the availability of the interpreters, respeakers and Members of the European Parliament. The Insign platform would be available and calls could be made the whole day; pre-scheduled calls appointed with the MEPs *(warm calls)* and unscheduled calls *(cold calls)*.

Two different activities took place on the 9th of April; 4 scheduled calls with an observing group from the European Commission and in the morning and a conference with the launch and other two demonstration calls in the afternoon.

The relay centre was based in London at SignVideo's premises. Every call of the day had to be recorded for research purpose (Task 1 and Subtask 4.3)

David Hay`s work had positive results from several European Sign Language users. The Hard of Hearing did not have the same level of participation. Additional efforts will be considered in the next demonstration when reaching out to this group.

Further trial occurred on the 9th from 9:30 am to 12:00 am

With regards to the quality of the phone calls, the analysis of the video recording of the calls made on the 9th of April shows that every sound track is present o all videos, as the server did transmit them.

This means that if an MEP and/or an interpreter could not hear his/her recipient properly. The possible causes for the poor sound quality are:

- The interpreter used an external microphone and speakers instead of a headset with integrated microphone: echo was produced and the interpreter seemed far from the microphone.
- The plugin anti cancelling function has been enabled and the interpreter is using a headset with integrated microphone: the MEP can't hear the beginning of the sentences.
- The respeaker pressed the F8 keyboard key. This is a shortcut used by The respeakers to mute the plugin's microphone input, in order to voice command the Voice Recognition software without disturbing the receiver;
- The interpreter's headset with integrated microphone is not correctly plugged.

As an illustrative example, the video file of the 13:06 PM call to Isabelle Durant MEP shows that her assistant could hear the respeakers but the respeakers could not hear the assistant. It seems that the respeakers had headset issues.

The Insign platform is based on an off the shelf technical platform but has dedicated servers with their own configuration. Those configurations need to be tested. IVèS is now working on improvements while connecting with the European relay centres until the end of August.

A particular attention will be made for the interpreters and respeakers´s workstation settings and configuration. IVèS has already delivered a spread sheet (RelayCentre_Worksations-Overview.xls) where the relay centre workstations configuration will be entirely detailed. It will include, amongst

other information about:

- OS Version
- PC specifications
- Internet Explorer version
- Interpreter has admin rights/ log mdp ?
- PC admin login/pwd Is IVES VPN installed ?
- LogmeIn software (remote control) authorized?
- Bandwidth test (www.speedtest.net) values (Up / Down)
- Type of internet access (DSL, Fiber, other)
- Connectivity (Wifi / Ethernet)
- Size of PC screen
- Webcam model
- Headset with integrated microphone model:
- Plugin anti-echo canceler disabled?

Realy Centre	
Name	
Address	
number of Insign Interpreters / respeakers	

IT Support	
IT contact phone number/email/skype	
Do the IT can access router configuration(subcontracted or inhouse)?	
Is a local technical support available ?	
Type of internet access (DSL, Fiber, other)	
Do the IT can access router configuration(subcontracted or inhouse)?	
Is internet access shared or dedicated to Interpretation ?	
comments about the infrastructure	

Interpreters Worksation				
Workstation ID	OS Version	PC specifications	Internet Explorer version	Inter
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

Screenshot of the Relay Centre Workstation Overview.

Sign Language calls

- 10 *warm calls* were scheduled to previously notified MEPs. They where carried out in various Sign Languages, as shown below;

- **LSE** 4
- **BSL** 2
- **MJNY**: 1
- **NGT**: 2
- **LSF** 1
- **Total** (Estimated15 minutes per call): **150 minutes**

- 15 *cold calls* were arranged. Sign Language users called MEPs who were not aware of the pending call Executed in a variety of sign languages as shown below;

  - **LSE** 4
  - **BSL** 2
  - **MJNY:** 3
  - **NGT**: 2
  - **LSF** 1
  - **International** 3

  - **Total** (Estimated 10 minutes per call): **15 minutes**

Respeaking calls

One *warm call* was scheduled to a previously notified MEP. A hard of hearing person made the call, in English.

- **English** 1

The total estimated time per call was **1 minutes.**

- For the *cold calls*, four calls were arranged and made in English and French.
  - **English** 2
  - **French**: 2

Total (Estimated 10 minutes per call): **4 minutes**

The Conference

In the afternoon, two additional public calls were made. In a conference hosted jointly by MEP Ádám Kósa and MEP Werner Kuhn, “POLITICAL PARTICIPATION: Access to the European institutions for deaf sign language users Hard of Hearing citizen.”

Although IVèS is the leader of this task, the logistics for this event were organised in close co-operation with EUD who presented the publication, *UNCRPD IMPLEMENTATION IN EUROPE- A DEAF PERSPECTIVE. Article 29: Participation in Political and Public lif* edited by Annika Pabsch.

This book, aims to contribute to the implementation of the Convention on the Rights of Persons with Disabilities with regards to Deaf and Hard of Hearing citizens. The book contains a chapter about the Insign project, as a best practice example of improving communication between deaf and Hard of Hearing persons and the EU institutions.

The conference included presentations of MEPs from a broad political spectrum, representatives of the European Commission, the European Disability Forum, the European Union Agency for Fundamental Rights and a keynote speech from ANED, the European Commission´s Academic Network of European Disability Experts.

A large number of registered participants were members of the deaf and Hard of Hearing community from different European and also North American nationalities. Other attendants where difficult to register, (accredited EU staff) but as an overall estimate the conference had an audience of over 120 persons.

For a broader dissemination of the project, the conference was also live streamed by the German company, Verbavoice. At the time of publication of this report; the Insign Consortium is awaiting data regarding the outreach of this action.

Demonstration calls

During the conference, the calls arranged in the challenging technical context of the European Parliament showed two aspects of the Insign platform`s functioning, through two services, VRS and respeaking.

In the VRS situation, Mark Wheatley, Project Coordinator and deaf Sign Language user made a call to MEP Richard Howitt, conversing with him, through an International Sign interpreter. The call lasted 8 minutes. The video image was crystal clear excepting at the end of the call where video freezing and pixelisation occurred.

In the respeaking situation, Mr Marcel Bobeldijk, President of the European Federation of Hard of Hearing People, made the call. It was planned to be made to MEP Jill Evans. A last minute impediment made it unable for her to attend, so she was replaced by Ms Annika Pabsch (EUD Policy Officer). The IVèS team, in quick coordination with EP IT Services, adapted the respeaking scenario with a back up solution previously established locating the MEP´s office in the interpreter´s booth of the conference room. An Insign demonstration item was added in the platform user website, in order to relay the call to the telephone installed in the booth so that the call could take place.

Because of sound feedback issues, which would have created interference within the room audio output/input system, the user microphone had to be shut down. Unfortunately, Mr Bobeldijk only used Real-time Text. Whilst this was unplanned, it did show the value of the Real-time Text application and the importance of having a broad range of methods of communication available.

The following tables, show the data collected from the successful and unsuccessful calls.

Answered calls transferred (9th April)

Hour	Wait	Duration	Relayed	Handled by	Srv
09:38:08	00:00:07	00:08:33	yes	Insign Agent FR respeaker1	Insign
09:51:18	00:00:05	00:02:14	yes	Insign Agent FR respeaker1	Insign
10:01:00	00:00:05	00:03:56	yes	Insign Agent FR respeaker1	Insign
10:01:51	00:06:21	00:04:42	yes	Insign Agent LSE2	Insign
10:06:30	00:00:22	00:01:11	yes	Insign Agent FR respeaker1	Insign
10:10:28	00:00:05	00:09:43	yes	Insign Agent FR respeaker2	Insign
10:13:53	00:00:05	00:05:45	yes	Insign Agent LSE2	Insign
10:17:23	00:03:25	00:02:49	yes	Insign Agent FR respeaker2	Insign
10:27:54	00:00:12	00:01:44	yes	Insign Agent EN respeaker1	Insign
10:31:36	00:00:05	00:02:15	yes	Indign Agent LSE	Insign
10:31:54	00:00:12	00:02:04	yes	Insign Agent LSE2	Insign
10:34:45	00:01:49	00:03:53	yes	Insign Agent EN respeaker2	Insign
10:35:08	00:00:07	00:01:44	yes	Insign Agent MJNY1	Insign
10:37:08	00:00:15	00:12:05	yes	Insign Agent MJNY1	Insign
10:38:36	00:00:04	00:00:55	yes	Indign Agent LSE	Insign
10:38:50	00:00:07	00:01:01	yes	Insign Agent LSE2	Insign
10:39:38	00:00:13	00:03:45	yes	Indign Agent LSE	Insign
10:44:09	00:00:10	00:03:22	yes	Insign Agent LSE2	Insign
10:52:15	00:00:11	00:03:29	yes	Insign Agent LSE2	Insign
10:54:21	00:01:54	00:04:44	yes	Insign Agent MJNY1	Insign
10:56:21	00:00:04	00:02:47	yes	Indign Agent LSE	Insign
10:56:26	00:00:08	00:18:29	yes	Insign Agent EN respeaker1	Insign
11:00:56	00:00:09	00:06:49	yes	Insign Agent LSF2	Insign
11:01:42	00:00:09	00:00:47	yes	Insign Agent LSE2	Insign
11:03:08	00:00:05	00:14:19	yes	Indign Agent LSE	Insign
11:03:48	00:00:09	00:02:23	yes	Insign Agent LSE2	Insign
11:04:33	00:00:16	00:00:46	yes	Insign Agent BSL1	Insign
11:04:42	00:00:06	00:11:19	yes	Insign Agent NGT1	Insign
11:12:15	00:00:08	00:00:21	yes	Insign Agent LSE2	Insign
11:12:19	00:00:08	00:05:12	yes	Insign Agent MJNY1	Insign
11:13:15	00:00:07	00:02:00	yes	Insign Agent LSE2	Insign
11:17:06	00:00:10	00:06:55	yes	Insign Agent EN respeaker1	Insign
11:19:54	00:01:57	00:08:16	yes	Indign Agent LSE	Insign
11:21:20	00:00:06	00:01:01	yes	Insign Agent BSL2	Insign
11:23:25	00:01:57	00:00:35	yes	Insign Agent BSL2	Insign
11:27:56	00:00:09	00:00:52	yes	Insign Agent MJNY1	Insign
11:28:37	00:00:07	00:01:48	yes	Insign Agent LSF2	Insign

11:29:42	00:01:21	00:33:00	yes	Insign Agent LSF2	Insign
11:36:37	00:00:08	00:04:27	yes	Insign Agent MJNY1	Insign
11:46:33	00:06:16	00:02:45	yes	Insign Agent LSE2	Insign
11:48:56	00:00:10	00:09:29	yes	Insign Agent MJNY1	Insign
11:53:43	00:00:10	00:02:02	yes	Insign Agent EN respeaker1	Insign
11:53:49	00:00:17	00:03:02	yes	Insign Agent EN respeaker2	Insign
11:56:53	00:00:11	00:06:24	yes	Insign Agent LSE2	Insign
11:58:13	00:01:57	00:00:36	yes	Insign Agent BSL2	Insign
12:02:05	00:00:08	00:05:55	yes	Insign Agent EN respeaker2	Insign
12:03:33	00:00:20	00:02:24	yes	Insign Agent LSE2	Insign
12:10:49	00:00:07	00:03:57	yes	Indign Agent LSE	Insign
12:17:39	00:00:07	00:03:08	yes	Indign Agent LSE	Insign
12:26:40	00:00:16	00:03:08	yes	Insign Agent EN respeaker2	Insign
12:27:00	00:00:10	00:22:23	yes	Insign Agent NGT1	Insign
13:20:19	00:00:07	00:00:37	yes	Insign Agent IS1	Insign
13:41:43	00:00:05	00:06:52	yes	Insign Agent IS1	Insign
14:00:53	00:00:06	00:06:40	yes	Insign Agent IS1	Insign
14:15:17	00:00:10	00:02:14	yes	Insign Agent IS	Insign
14:16:25	00:00:15	00:04:07	yes	Insign Agent IS1	Insign
14:24:30	00:01:01	00:08:04	yes	Insign Agent IS	Insign
14:35:45	00:00:05	00:05:26	yes	Insign Agent EN respeaker1	Insign
14:53:32	00:00:05	00:07:22	yes	Insign Agent FR respeaker2	Insign
15:02:21	00:00:04	00:03:50	yes	Insign Agent FR respeaker2	Insign
15:06:42	00:00:03	00:04:08	yes	Insign Agent FR respeaker2	Insign
15:28:20	00:00:16	00:12:38	yes	Insign Agent EN respeaker2	Insign
15:42:28	00:00:07	00:08:41	yes	Insign Agent EN respeaker2	Insign
15:52:15	00:00:07	00:20:49	yes	Insign Agent EN respeaker2	Insign
16:04:47	00:00:08	00:03:29	yes	Insign Agent IS1	Insign

Answered calls total (09th April)

Hour	Wait	Duration	Disconnection	Handled by	Srv
09:35:19	00:00:09	00:00:01	Agent	Insign Agent FR respeaker1	Insign
09:38:08	00:00:07	00:08:33	Relay	Insign Agent FR respeaker1	Insign
09:51:18	00:00:05	00:02:14	Relay	Insign Agent FR respeaker1	Insign
10:01:00	00:00:05	00:03:56	Relay	Insign Agent FR respeaker1	Insign
10:01:51	00:06:21	00:04:42	Relay	Insign Agent LSE2	Insign
10:06:30	00:00:22	00:01:11	Relay	Insign Agent FR respeaker1	Insign
10:09:10	00:00:03	00:00:01	Agent	Insign Agent FR respeaker2	Insign
10:10:28	00:00:05	00:09:43	Relay	Insign Agent FR respeaker2	Insign
10:13:53	00:00:05	00:05:45	Relay	Insign Agent LSE2	Insign
10:17:23	00:03:25	00:02:49	Relay	Insign Agent FR respeaker2	Insign
10:27:54	00:00:12	00:01:44	Relay	Insign Agent EN respeaker1	Insign
10:31:36	00:00:05	00:02:15	Relay	Indign Agent LSE	Insign
10:31:54	00:00:12	00:02:04	Relay	Insign Agent LSE2	Insign
10:34:45	00:01:49	00:03:53	Relay	Insign Agent EN respeaker2	Insign
10:35:08	00:00:07	00:01:44	Relay	Insign Agent MJNY1	Insign
10:37:08	00:00:15	00:12:05	Relay	Insign Agent MJNY1	Insign
10:38:36	00:00:04	00:00:55	Relay	Indign Agent LSE	Insign
10:38:50	00:00:07	00:01:01	Relay	Insign Agent LSE2	Insign
10:39:38	00:00:13	00:03:45	Relay	Indign Agent LSE	Insign
10:44:09	00:00:10	00:03:22	Relay	Insign Agent LSE2	Insign
10:52:15	00:00:11	00:03:29	Relay	Insign Agent LSE2	Insign
10:54:21	00:01:54	00:04:44	Relay	Insign Agent MJNY1	Insign
10:56:21	00:00:04	00:02:47	Relay	Indign Agent LSE	Insign
10:56:26	00:00:08	00:18:29	Relay	Insign Agent EN respeaker1	Insign
11:00:44	00:03:31	00:00:15	Agent	Insign Agent BSL1	Insign
11:00:56	00:00:09	00:06:49	Relay	Insign Agent LSF2	Insign
11:01:42	00:00:09	00:00:47	Relay	Insign Agent LSE2	Insign
11:02:37	00:00:06	00:01:01	Agent	Insign Agent NGT1	Insign
11:03:08	00:00:05	00:14:19	Relay	Indign Agent LSE	Insign
11:03:48	00:00:09	00:02:23	Relay	Insign Agent LSE2	Insign
11:04:33	00:00:16	00:00:46	Relay	Insign Agent BSL1	Insign
11:04:42	00:00:06	00:11:19	Relay	Insign Agent NGT1	Insign
11:08:59	00:08:51	00:00:15	Agent	Insign Agent BSL2	Insign
11:12:15	00:00:08	00:00:21	Relay	Insign Agent LSE2	Insign
11:12:19	00:00:08	00:05:12	Relay	Insign Agent MJNY1	Insign
11:13:15	00:00:07	00:02:00	Relay	Insign Agent LSE2	Insign
11:16:49	00:00:05	00:03:31	Caller	Insign Agent NGT1	Insign
11:17:06	00:00:10	00:06:55	Relay	Insign Agent EN respeaker1	Insign
11:19:35	00:00:05	00:00:48	Caller	Insign Agent BSL2	Insign
11:19:54	00:01:57	00:08:16	Relay	Indign Agent LSE	Insign
11:21:20	00:00:06	00:01:01	Relay	Insign Agent BSL2	Insign
11:22:40	00:00:13	00:00:05	Caller	Insign Agent BSL2	Insign
11:22:46	00:00:27	00:01:42	Agent	Insign Agent BSL2	Insign
11:23:25	00:01:57	00:00:35	Relay	Insign Agent BSL2	Insign
11:27:56	00:00:09	00:00:52	Relay	Insign Agent MJNY1	Insign
11:28:37	00:00:07	00:01:48	Relay	Insign Agent LSF2	Insign

11:29:42	00:01:21	00:33:00	Relay	Insign Agent LSF2	Insign
11:30:34	00:00:07	00:01:03	Agent	Insign Agent MJNY1	Insign
11:32:21	00:00:05	00:01:01	Agent	Insign Agent MJNY1	Insign
11:36:37	00:00:08	00:04:27	Relay	Insign Agent MJNY1	Insign
11:46:33	00:06:16	00:02:45	Relay	Insign Agent LSE2	Insign
11:48:56	00:00:10	00:09:29	Relay	Insign Agent MJNY1	Insign
11:52:42	00:00:10	00:00:00	Agent	Insign Agent EN respeaker2	Insign
11:53:43	00:00:10	00:02:02	Relay	Insign Agent EN respeaker1	Insign
11:53:49	00:00:17	00:03:02	Relay	Insign Agent EN respeaker2	Insign
11:56:53	00:00:11	00:06:24	Relay	Insign Agent LSE2	Insign
11:58:13	00:01:57	00:00:36	Relay	Insign Agent BSL2	Insign
12:02:05	00:00:08	00:05:55	Relay	Insign Agent EN respeaker2	Insign
12:03:33	00:00:20	00:02:24	Relay	Insign Agent LSE2	Insign
12:08:37	00:00:09	00:00:01	Agent	Indign Agent LSE	Insign
12:10:49	00:00:07	00:03:57	Relay	Indign Agent LSE	Insign
12:14:23	00:00:55	00:00:01	Agent	Indign Agent LSE	Insign
12:17:39	00:00:07	00:03:08	Relay	Indign Agent LSE	Insign
12:26:40	00:00:16	00:03:08	Relay	Insign Agent EN respeaker2	Insign
12:27:00	00:00:10	00:22:23	Relay	Insign Agent NGT1	Insign
12:38:09	00:00:07	00:00:00	Caller	Insign Agent BSL1	Insign
13:20:19	00:00:07	00:00:37	Relay	Insign Agent IS1	Insign
13:33:19	00:00:09	00:00:01	Agent	Insign Agent IS1	Insign
13:34:36	00:00:05	00:00:01	Agent	Insign Agent IS1	Insign
13:36:56	00:00:17	00:00:00	Agent	Insign Agent IS1	Insign
13:38:31	00:00:10	00:00:01	Agent	Insign Agent IS1	Insign
13:41:43	00:00:05	00:06:52	Relay	Insign Agent IS1	Insign
13:49:17	00:00:07	00:00:00	Agent	Insign Agent IS1	Insign
13:52:01	00:00:08	00:00:00	Agent	Insign Agent IS1	Insign
13:54:01	00:00:07	00:00:00	Agent	Insign Agent IS1	Insign
13:55:49	00:00:05	00:00:00	Agent	Insign Agent IS1	Insign
14:00:53	00:00:06	00:06:40	Relay	Insign Agent IS1	Insign
14:10:41	00:00:04	00:00:01	Agent	Insign Agent IS1	Insign
14:14:15	00:00:05	00:00:01	Agent	Insign Agent IS	Insign
14:15:17	00:00:10	00:02:14	Relay	Insign Agent IS	Insign
14:16:25	00:00:15	00:04:07	Relay	Insign Agent IS1	Insign
14:24:30	00:01:01	00:08:04	Relay	Insign Agent IS	Insign
14:35:45	00:00:05	00:05:26	Relay	Insign Agent EN respeaker1	Insign
14:53:32	00:00:05	00:07:22	Relay	Insign Agent FR respeaker2	Insign
15:02:21	00:00:04	00:03:50	Relay	Insign Agent FR respeaker2	Insign
15:06:42	00:00:03	00:04:08	Relay	Insign Agent FR respeaker2	Insign
15:28:20	00:00:16	00:12:38	Relay	Insign Agent EN respeaker2	Insign
15:42:28	00:00:07	00:08:41	Relay	Insign Agent EN respeaker2	Insign
15:52:15	00:00:07	00:20:49	Relay	Insign Agent EN respeaker2	Insign
15:59:57	00:00:11	00:00:35	Caller	Insign Agent IS1	Insign
16:04:47	00:00:08	00:03:29	Relay	Insign Agent IS1	Insign

Unanswered calls total (09th April)

Date	Queue	Disconnection	Wait	Srv
09:43:45	Queue LSF	Abandon	00:01:18	Insign
10:00:34	Queue MJNY	Abandon	00:01:03	Insign
10:00:57	Queue BSL	Abandon	00:00:24	Insign
10:02:05	Queue BSL	Abandon	00:00:21	Insign
10:02:10	Queue MJNY	Abandon	00:02:19	Insign
10:03:44	Queue BSL	Abandon	00:00:19	Insign
10:04:01	Queue LSE	Abandon	00:09:19	Insign
10:05:06	Queue BSL	Abandon	00:00:28	Insign
10:06:43	Queue MJNY	Abandon	00:01:23	Insign
10:07:44	Queue BSL	Abandon	00:00:52	Insign
10:09:36	Queue BSL	Abandon	00:20:43	Insign
10:09:39	Queue LSF	Abandon	00:03:41	Insign
10:18:46	Queue MJNY	Abandon	00:01:01	Insign
10:26:49	Queue IS	Abandon	00:01:28	Insign
10:28:34	Queue MJNY	Abandon	00:01:10	Insign
10:28:45	Queue IS	Abandon	00:01:19	Insign
10:30:40	Queue IS	Abandon	00:10:20	Insign
10:31:54	Queue BSL	Abandon	00:23:02	Insign
10:32:02	Queue BSL	Abandon	00:16:03	Insign
10:37:30	Queue MJNY	Abandon	00:02:59	Insign
10:51:44	Queue MJNY	Abandon	00:00:40	Insign
10:53:04	Queue MJNY	Abandon	00:00:49	Insign
10:55:28	Queue NGT	Abandon	00:05:54	Insign
11:11:19	Queue BSL	Abandon	00:06:50	Insign
11:19:23	Queue NGT	Abandon	00:00:21	Insign
11:20:33	Queue LSE	Abandon	00:03:53	Insign
11:24:21	Queue NGT	Abandon	00:01:21	Insign
11:24:32	Queue NGT	Abandon	00:03:19	Insign
11:24:53	Queue LSE	Abandon	00:04:49	Insign
11:25:23	Queue BSL	Abandon	00:03:49	Insign
11:26:35	Queue BSL	Abandon	00:25:59	Insign
11:28:31	Queue NGT	Abandon	00:02:22	Insign
11:30:23	Queue BSL	Abandon	00:02:35	Insign
11:31:25	Queue NGT	Abandon	00:01:03	Insign
11:33:56	Queue NGT	Abandon	00:02:35	Insign
11:37:41	Queue IS	Abandon	00:01:03	Insign
11:38:35	Queue NGT	Abandon	00:00:33	Insign
11:38:41	Queue BSL	Abandon	00:02:40	Insign
11:41:06	Queue NGT	Abandon	00:00:52	Insign
11:42:26	Queue NGT	Abandon	00:00:34	Insign
11:52:53	Queue IS	Abandon	00:00:35	Insign
13:11:22	Queue IS	Abandon	00:01:27	Insign
14:01:22	Queue IS	Abandon	00:00:19	Insign
14:21:11	Queue BSLtext	Abandon	00:01:17	Insign

Lessons from the demonstration

Feedback received from the European Commission shows that the presentation of the demonstration did not explain well the issue of the platform functioning and its potential utility for the accessibility of the deaf and Hard of Hearing people in the European Institutions. More time will be taken in the preparation of the second demonstration (rehearsals, testing, etc.) to avoid this.

IVèS and SignVideo will continue to work together in order to establish a procedure to provide the best quality of service.

Regarding the change in the European Institutions networks bandwidth, IVèS will work to privilege QoS for SIP protocol. Focus will also be on the developments of the recommendations produced by the study of user feedback provided by HWU and Designit. More importantly, IVèS and Designit will redesign the respeaking user interface with the aim of removing ambiguities when using the platform.

The Second Demonstration

The second demonstration will present all of the required functionalities to continue the functionality of the system.

A demonstration scenario will be developed within the Consortium during the following months in order to demonstrate VRS, VRI and booking module for PC, OSX, IOS and Android devices. The platform will benefit from the feedback of the first demonstration.

The encountered freezing and pixelisation during the first call was caused by bandwidth variations during the call. To avoid this in the future, IVèS will work with European Institutions to privilege QoS for video calls.

Even with the QoS management, bandwidth variations may occur as it happens in a usual 3G call. Even though it does not prevent interlocutors from communicating, IVèS will work hard to prevent this happening again.

Remedial action is to be scheduled with representatives of DG COMM and DIGIT in order to further test the prototype and the connections.

Relevant Call centre statistics an Quality of Service Parameters

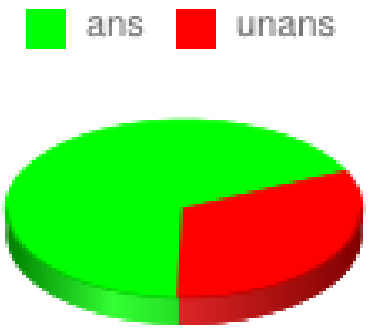
The relevant call centre statistic appear below:

Number of calls handled:

Total calls: 135

Calls Answered / Unanswered:

Period start date:	April 0	2014, 00:00
Period end date:	April 0	2014, 23:59



Percentage of answered and unanswered calls:

QUEUE N.	CALLS	PERCENTAGE
NGT	4	4.4%
BSL	10	11.0%
English respeakers	**13**	14.3%

LSE	23	25.3%
LSF	3	3.3%
French respeaker	11	12.1%
MJNY	9	9.9%
IS	18	19.8%

- Answered calls (91): 67,4% (090414-aswered-calls_total.xls)
- Relayed calls (65): 71,4% of answered calls and 48,1% of the total calls (090414-answered-calls_transfered.xls)
- Unanswered calls (44): 32,6% - all the unanswered calls are due to an abandon from the caller (090414-unanswered-calls_total.xls).

Total calls processed: 13 67.4% answered/ 32.6% unanswered

The total number of calls also contains the technical calls made during the day to make sure that the queuing system was working well.

Al calls

N. calls answered by operators:	91
Average call length:	245.7 s.
Min call length:	00:00:00
Max call length:	00:33:00
Total call length:	6.2 H
Average call waiting time:	34.7 s.
Min waiting time:	00:00:03
Max waiting time:	00:08:51
Total waiting time:	0.9 H
Average initial position	1.0
Min initial position	1
Max initial position	2
Coverage	28.6%

This table shows a recap of all calls including test calls handled by the call centre server. It included the following information:

- The average call length: time the caller spends talking to an interpreter/ respeaker.
- The maximum and minimum call lengths recorded for the given time period.
- The total call length (for all calls on all interpreters/respeakers).
- The average call waiting time (i.e. the time a caller was waiting on a queue before being connected to an interpreter/respeakers).
- The minimum an maximum call waiting times o record.
- The total waiting time for all handled calls.
- The average initial position of the call in the queue
- The minimum and maximum initial queue positions that have been detected.
- The queue position coverage: as this information is not tracked for all calls, this ratio shows the average number of call that had queue position record.

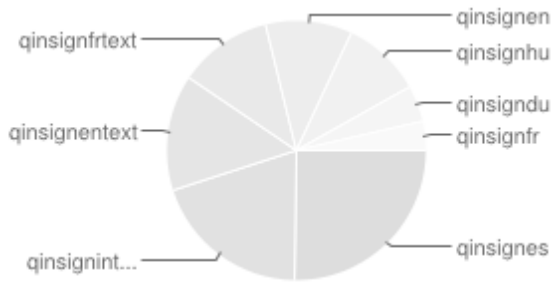
All calls:

Number o unanswered calls	**44**
Average waiting time before disconnection	238.9s
Minimum waiting time before disconnection	0.19
Maximum waiting time before disconnection	25:59
Total waiting time before disconnection	2.9H
Average initial position	1.2
Minimum initial position	1
Maximum initial position	2

Coverage	100.0%
Average queue position at disconnection:	1.1
Minimum queue position at disconnection	1
Maximum queue position at disconnection.	2

Answered calls by queue:

Queue	N. Calls	%
Dutch SL	4	4.4%
British SL	10	11.0%
Britsh Txt	13	14.3%
Spanish SL	23	25.3%
French SL	3	3.3%
French Txt	11	12.1%
Hungarian SL	9	9.9%
International SL	18	19.8%



The ACD plays an Asterisk queue-welcome video prompt and sends a T140 message before the AEL script routes the call to the required queue. A periodic-announce video prompt is then played each 20 seconds until an interpreter becomes available to tak the call.

As each queue represents a specific communication mode queuing system, it is possible to display internationalized prompts/T140 messages.

For the second demonstration, internationalized prompts an text messages will be provided for each communication mode.To internationalize the T140 message and welcome prompts, the Asterisk AEL dial plan script will look like this:

```
[...]
        i  ("${queueName}" =   "qInsignDu" )
        {
        sentText(T140welcome_Du);
    mp4play(/var/lib/asterisk/sounds/du/Insign_Welcome.mp4);
        }
```

```
    elseif ("${queueName}" == "qInsignEn")
    {
    sentText(T140welcome_en);
 mp4play(/var/lib/asterisk/sounds/en/Insign_Welcome.mp4);
    }
    elseif ("${queueName}" == "qInsignFr")
 }
    sentText(T140welcome_fr);
mp4play(/var/lib/asterisk/sounds/fr/Insign_Welcome.mp4);
 }
    [...]
```

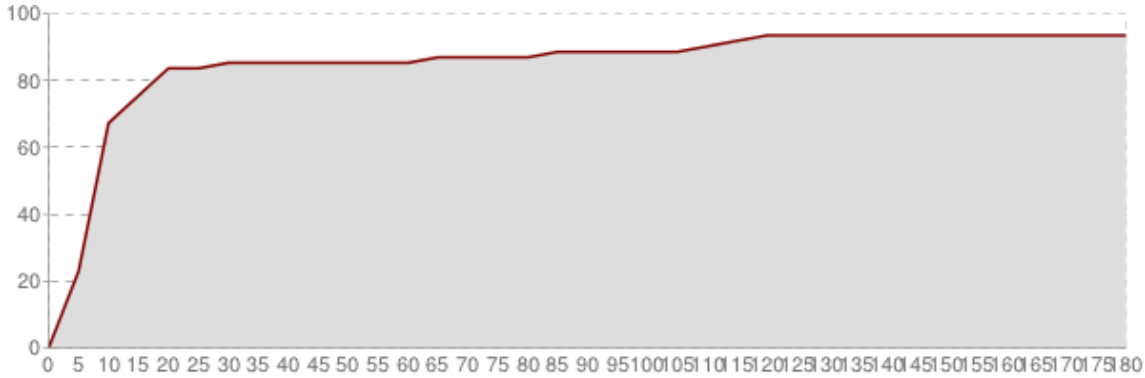
To internationalize the Asterisk periodic-announce, Asterisk queues al have a dedicated entry in a data base where references to periodic-announce video files are stored. Thus the ACD serve plays the required internationalized files for each queue.

Description of the technical characteristics of the configurations:

Stream Configuration, Used ports:

- 506 (SIP protocol) in UDP and TC to :
  - ip:88.191.221.179
  - ip:87.98.205.4
- 1 000 to 20 000 (RTP protocol) in UDP to :
  - ip:87.98.205.4
  - ip:88.191.221.179
  - ip:212.129.18.151
  - ip:87.98.205.11
  - ip:212.83.152.250
  - ip:87.98.205.16

Service level agreement:



The above chart shows the percentage of calls answered over time (in seconds). There is a single line on the chart. The red line represents the percentage of calls. The chart demonstrates the speed to answer the majority of calls and therefore the user´s waiting time users when accessing a remote interpreter.

The results indicate that more than 80% of the calls were handled quickly (less than 20 seconds). As a comparison with the US VRS, the FCC has adopted various rules to improve VRS service. One of these rules is that VRS providers must answer 80 % of all VR calls within 120 seconds

6.4.3 Deliverables

For the Insign demonstration in Athens, May 15, 2014, IVèS is already working on all the aspects that have been pointed out for improvement.

In the Demonstration at the European Commission certain upgraded aspects of the platform will be presented:

- Booking system
- PC and Mac XOS
- iOS and Android mobile applications

6.4.4 Calendar

Activity Deliverable	Timeline
Internal platform testing; (platform robustness strengthening ; security improvement	9th April to 15th May:
Setting and testing in Athens	12th to 15h May:
Relay centre testing and setting	March
Platform interface setting for the selected tester and accounts creation,	May
Ambassador´s demonstration	15th May
Platform network optimization by privileging QoS for Total Conversation calls in collaboration with EC IT services.	May to September
Iterative platform ergonomic and design development process in collaboration with Designit;	19th May to September
Preparation for the demonstration in the European Commission.	May to September

6.4.5 Subtask 4.3 User Experience Research

6.4.6 Objectives

The objectives of Task 4 include the evaluation of the Demonstrations and of the user experience. The evaluation takes a two-pronged approach: (1) HWU is leading on the evaluation of the communicative interaction that takes place between deaf people and representatives of the European Parliament or Commission through the Insign Total Conversation platform, and (2) IVèS is leading on the evaluation of the technical aspects of the platform. The information gathered by HWU and Designit will be crucial to allow IVèS to improve the development of the platform, SignVideo's refinement of the

service, and efsli's development of the training. Furthermore, HWU and Designit are working together to examine the experience of all stakeholders (Deaf or Hard of Hearing people, hearing people and interpreters/respeakers and EU representatives) before, during and after calls made using the Insign Total Conversation platform and service at each of the three Demonstrations scheduled during 2014.

6.4.7 Methodology

To achieve the best communicative interaction between deaf and Hard of Hearing people and representatives of the European Parliament through the Total Conversation platform (whether through interpreters or text), HWU is conducting an interactional analysis on the conversations that occur during the first Demonstration and examine the experience of all stakeholders (Deaf or Hard of Hearing people, hearing people and interpreters/ respeakers and EU representatives), including the processes that occur before, during and after the Demonstration. This analysis will be conducted also after the second and final demonstration. The evaluation involves a multi-method approach, combining ethnographic observations and linguistic interactional analyses.

Demonstration number 1: Non-participant ethnographic observations took place at four sites involved in the first Demonstration process on 9th April 2014: Heriot-Watt had people in (1) Brussels where the demonstration took place in the European Parliament, (2) London at the SignVideo premises where the interpreters were based, (3) Surrey at Roehampton University where the respeakers were based, and Designit had someone observing at (4) the CNSE location in Madrid where the Spanish deaf callers were based. The conversations conducted via the Insign Total Conversation platform and any discussions that took place post-Demonstration were observed and field notes were taken by all researchers by referring to an observation matrix (see **Annex a.xvii).** Jemina Napier (HWU) shadowed members of the European Commission who visited MEPs offices to observe pre-scheduled calls in the morning of 9th April. She then observed the live demonstration in the conference and launch of the Insign project in the European Parliament later that same afternoon, and conducted brief interviews with observers at the Demonstration at the end of the conference event. Robert Skinner (HWU) observed all calls made at the SignVideo premises throughout the day on 9th April, and conducted a focus group at the end of the day with the interpreters. Graham Turner (HWU) observed all calls made at the Roehampton University premises throughout the day on 9th April, and conducted a focus group at the end of the day with the respeakers. All callers (Deaf and Hard of Hearing

people) were directed to a user survey as soon as their call finished, so that HWU could gauge their practical and real experience with the Insign platform (see **Annex A.III**). The user survey was modelled on the basis of the user survey used in Task 1, and included questions both in English an International Sign. A post-call survey was also designed for the MEPs (see **Annex A.IV)** in order to evaluate their experience with the platform. A survey was also developed for observers at the Demonstration (see **Annex A.V**), which was used as the basis for interviews with observers post-demonstration. Detailed reports with the outputs from the first demo evaluation will be provided to all project partners for the Ambassadors Demonstration in May 2014.

The Ambassadors Demonstration: The same methodology will be utilised for the second demonstration event in Athens in May 2014. Jemina Napier (HWU) will be in Athens and Robert Skinner (HWU) in the SignVideo office in order to observe and take field notes on the process of making calls when participants are representing a wide range of different countries and communicating with EU representatives via International Sign. The attention will focus on how participants deal with the call process from scratch: downloading the necessary software on their device and making a call. Combined with the observations and analyses from the first Demonstration, these further observations will provide more ethnographic information on how easy it is for Deaf/Hard of Hearing people to use the Total Conversation platform without any preparation, which better reflects the way that users across Europe may engage with this type of service. Callers will also be directed to complete a user survey (the same one as used in the first Demonstration) in order to evaluate their experience with the Insign platform and service. The results and user surveys will be combined with the evaluation results from Demo 1, to provide a holistic overview of the calling experience. Recommendations will be made on any issues with the communication that can be improved for the final Demo in September 2014.

Final Demonstration: Non-participant ethnographic observations will also be used for the final Demonstration process in September 2014. Field notes will be taken in Brussels where the demonstration will take place, and in one of the locations where the interpreters will be based remotely, on the process of making calls. As for the First Demonstration 1 and the Ambassadors Demonstration, the conversations conducted via the Total Conversation platform and any discussions that take place post-Demonstration will be observed and video-recorded via IVèS platform for the purpose of linguistic analysis of the interactions. The outcomes of these evaluations will also

complement and inform the further user research that will be conducted to consolidate the evaluation of the user experience throughout the project.

User research will be designed in collaboration between HWU and Designit to create an appropriate semi-structured interview instrument that will be used to conduct follow-up interviews with participants after the final demonstration. The interviews will refer back to the observations from the communicative evaluation, and will seek to contextualize the observed behaviours and communicative interactions; to obtain information that was missed in the observations, to check the accuracy of something observed; and to ask participants to evaluate their experience of communicating via the Total Conversation platform. HWU will conduct interviews with deaf sign language users in International Sign and Designit will focus on collecting information from the representatives of the European Parliament and Commission, the interpreters and respeakers in English. Interviews will be video-recorded, transcribed and translated, and content and thematic analyses will be carried out in order to identify any patterns of themes that emerge from the interview data, in relation to participant perceptions of the Demonstration.

6.4.8 Deliverables

The results of the communicative and user evaluation will be compiled into three stand-alone reports:

1) Preliminary observations of the nature of the communication that occurred in Demo 1 have been collected in a report (see **Annex A.XVII**). The conversations were also video-recorded via IVèS platform for the purpose of linguistic analysis of the interactions, which will be analysed after the submission of the Interim Report for accuracy and communication flow, drawing on existing analytical taxonomies in sign language interpreting studies and the European Commission SCIC rubric for evaluating interpreting skills. A preliminary report of the linguistic analysis will be complete prior to the Ambassadors Demonstration in Athens in May 2014, in order to support and enhance the work of IVèS, Sign Video and efsli in developing Tasks 2, 3 and 4 . At present, HWU are translating and analysing all the interview data that was collected at the first Demonstration in Brussels, which will also be compiled into report before the May demonstration event.

2) A full report combining detailed results of the April Demonstration and the Ambassador´s demonstration event, giving a more detailed overview of

the communicative experience of all participants and the level of success of the service, with recommendations for any problems that could be improved for the final Demonstration in September.

3) A final report, after the final September Demonstration, drawing on final analyses of all three stages of data collection, with final recommendations about the communicative aspects of the Total Conversation platform and service. The final report aims to identify a list of recommendations that can be applied to the following areas: service provision, policy development, training of interpreters and respeakers, and a model for Total Conversation platforms in the European context.

HWU and Designit will each produce an independent preliminary report based on the User experience data they collect. The results will then be combined into the deliverable reports as outlined above.

HWU is currently producing a report on the ethnographic work and focus group discussions held on the 9th of April. This should be completed by early to mid July 2014. Only one call on the 9th of April was made in English. This was an English/IS call. The call recording will be analysed and reported back to efsli. I i unlikely the analysis and write up of the cal will be completed before the first efsli training week. Instead, the Research Associate from HWU has been holding regular meetings and presentations with efsli (via Skype) to discuss the findings of the surveys, the ethnographic work and to provide useful insights to support the development of the training package. Dates of past online meetings are 8th and 27th of May. On-going contact i expected to ensure relevant and useful information is passed on to efsli.

All other calls on the 9th of April were made in another spoken language, it is not possible for HW to appropriately analyse these calls.

HWU is planning to do further analysis of relayed (English) calls carried out at the second Insign demonstration in September. This analysis is to be included as part of the final report from HWU.

6.4.9 Calendar

Task/ Sub-task	Activities	Deliverable	Timeline
Task 1: Review of current practices	1. Desk research: Literature/ policy/ technological review, European Union provisions 2. User research (surveys): Questionnaire & follow-up interviews	Literature review User research findings	Complete Complete
Task 4: Demonstration of platform	1. Communicative evaluation of demonstration 2. User experience research	1. Demo 1 preliminary report 2. Demo 1 + Ambassadors event detailed report 3. Final report 4. Academic papers	Complete mid-July mid-Nov End project

6.5 Tas Conceptualising sustainable platform

6.5.1 Objectives

The business model definition will allow the Consortium to have a clearer view of how the business development has to be, helping to take strategical decisions and have a common objective to achieve the designed model.

At the end of this task a replicable and sustainable service model will be designed. This includes a cost- benefit analysis of the service for 5 years after the completion of the pilot project and a forecast of the expected demand of interaction between deaf and Hard of Hearing citizens and EU Institutions. This model will take into account an balance the different users, stakeholders and experts' knowledge and experience, as well as the business objectives and available resources.

6.5.2 Methodology

The model's description will be visually represented in different business sketching and data visualisation tools (Business Model Canvas and Blueprint). These tools allow to represent certain degrees of complexity in fairly simple visualisations. The proposed methodology help to generate collaborative ideation and organize ideas in order to design, map and describe the service and business models.

The stakeholders involved, technologies, artefacts, protocols and the relations and touch points between all of them will be designed in order to provide a clear description of the user's experience.

This design will be also developed thanks to the research phases' results that will gather stakeholder's needs, concerns and constraints regarding the Insign project, and feedback from data centres and video services in member states and E institutions.

Parameters about the interaction between citizens and institutions, a service concept rating, and main needs from all stakeholders have been registered and analysed. These achievements will be part of the information used to develop the business model. More evidence will be gathered in the coming stages of the project. The information collected so far gives us useful insights with regards to external expectations about the project, that will be very much taken into account in the service and business design stage.

These achievements are already described in the annexes related to task 1. The main findings so far, are:

- There are concerns from different stakeholders with regards to the full availability of interpreters/respeakers. A 24/7 service would be excessivel expensive and probably unsustainable.

- The demand scenario is considered to be low for two reasons:

    - Citizens and representatives do not consider cold instantaneous telephone communication as a main channel. Email is supposed to be the chosen platform for this kind of communication.

    - In general, it is unusual that a citizen contacts with its representatives individually. Communication with European institutions is usually carried out through bigger representative organizations, DPOs, citizen or consumer groups, etc.

- Partly because the above mentioned reasons, there is a general agreement that the service has to be delivered, not exactly as a need-covering service, but as a necessity because of accessibility and equality issues.

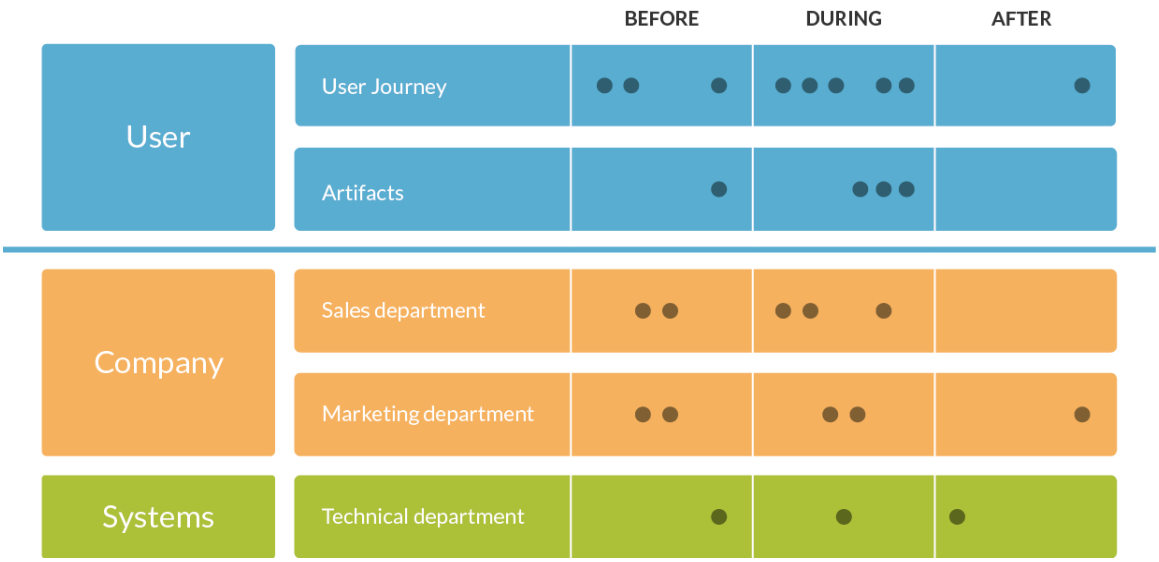
In the near future issues regarding the interface design, interaction and usability, and a benchmark from other similar interpretation services from EU member states will be analysed by HWU, Designit and efsli.

Once the needed information is completed, the service and business model will describe the whole service workflow (interpretation service, billing, booking, user interaction, management model, technical infrastructure and human resources).

The main tools that will be used to achieve these goals are the Service Blueprint and Business Model Canvas:

Service Blueprint.

This tool helps to align the business objectives and the user experiences when using the service. It helps to simplify the complexity of all the operations levels. It also includes all the visible and invisible processes happening after, during and before the delivery of the service.

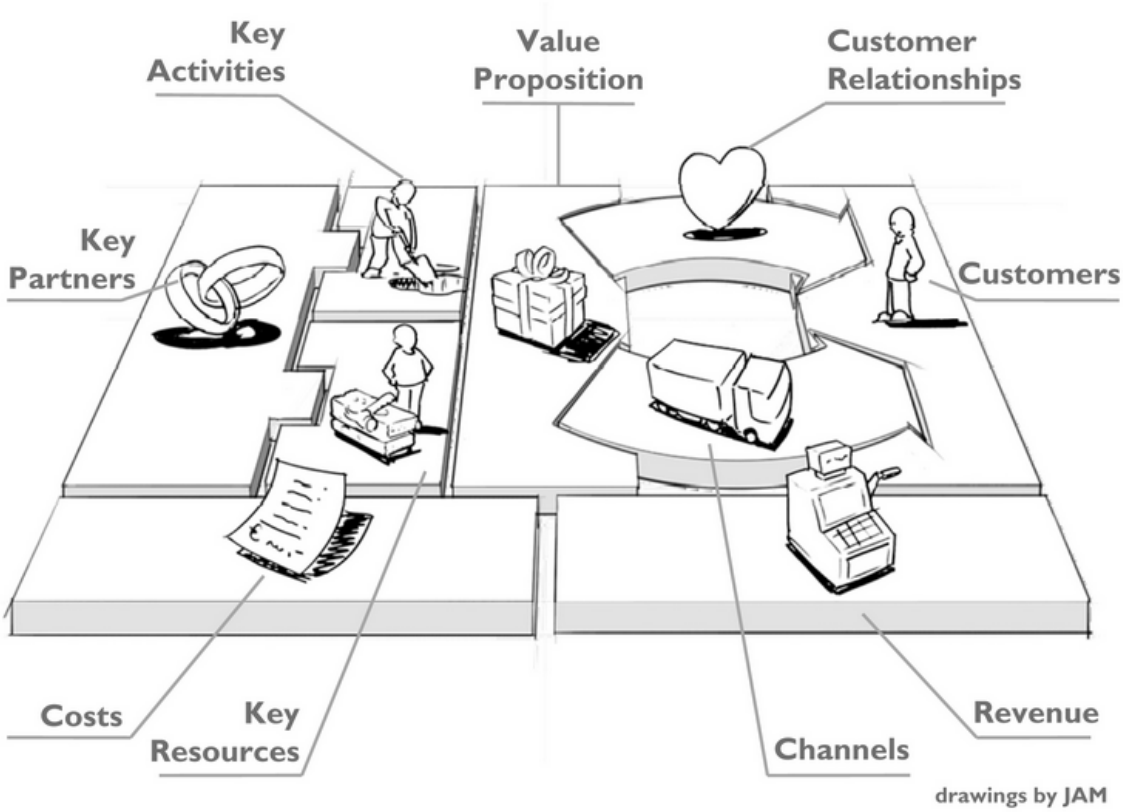


Business Blueprint

Business Canvas Model (BMC)

This tool will allow to design Insign's business model. Its generation is iterative and will map all the business related aspects to success in the business model generation.

Before an internal development of a BMC first draft this tool will be generated though a strategic workshop with the participation of different stakeholders that can provide different points of view, needs and concerns about the model (Technical, business and operational actors, as well as users will be involved).



Business model canvas

6.5.3 Deliverables

The main and final deliverable for this stage will be the first concept of the Business Model Canvas for the sustainable Insign Platform. The Cost-benefit analysis will foresee the three scenarios (depending on the low, medium and high level of demand) and its maintenance and sustainability with the required investments estimated for 5 years.

Other deliverables that this task will generate and will feed the BMC are (see annex A. XVIII for more information)

- Service Journey.
- Service Blueprint.
- Value Proposition Canvas
- Value Proposition Canvas.

Once the business model is defined, Designit will create a visual representation of business performance indicators (KPIs) that will help to evaluate and monitor the success of a number of defined key indicators in order to assure the best quality of the service delivered. These indicators (time spent using the service, overall satisfaction, estimated pricings…) have already been measured during the research stages. Insign Consortium members will analyse and keep track of the evolution they will suffer with future improvements of the Insign service in order to take advantage of that information and anticipate adjustments in the service and business model.

6.5.4 Calendar

According to the estimated scheduled calendar a Service and Business design team from Designit is already booked and will start working in the business definition on May 19th. They will be developing the model for two and a half months until the end of July. After that date, this team will be available for redefining and iterating the model until the end of the pilot project.

Task/ Sub-task	Activities	Deliverables	Timeline
Task 5.1	Service Design Business Design **1)** **2)** Business model workshop	User Journey Business Blueprint Value Proposition Canvas Business model canvas draft Validated Business model canvas	June July July July July
Task 5.3	Evaluation of impact and metrics dashboard design	Evaluation of impacts and metrics dashboard	November

6.5.5 SubTask 5.2 Dissemination

The aim of the dissemination action is, amongst other, to raise awareness, inform and engage European citizens not only on the Insign project, but also on the political momentum European citizens are experiencing. In parallel, and at the same time, the Insign Consortium is receiving input and feedback from the community, improving and ensuring the sustainability of the project. Although Designit leads the task, it is carried out by all the partners in a co-operative manner,

An insign project website has been created (www.eu-insign.eu) and a Facebook https://www.facebook.com/Insignproject?fref=ts and Twitter (@insignproject) account in order to explain the project aims and objectives and to disseminate information about project activities and results. The information is provided in English and International Sign.

All the partners have been actively disseminating through their own social media accounts; writing Twitter and Facebook feeds and blog articles (https://lifeinlincs.wordpress.com/2014/03/07/insign-breaking-new-ground-in-video-remote-interpreting-research/) . Information has also been shared through email, newsletters, or the partner´s website.

This is an action that is on-going through the whole project; there are plans to present information about the Insign project at different conferences (the European Students of Sign Language Interpreting Conference in Utrecht at the end of May, efsli´s annual conference in Antwerp, September 2014) and academic articles (with approval from the European Commission) to further disseminate the research results.

Another planned activity is the Ambassador´s demonstration, which will be fundamental for the dissemination of the Insign project.

It will be held in Athens on 15th May 2014 as part of the annual EUD Workshops, Seminar and General Assembly. Over 80 delegates from over 30 EU member states, Norway, Iceland, Switzerland, Serbia, Macedonia and Israel, will attend it. Members of the consortium will give a short presentation to the delegates concerning the scope of the project. They will also have an opportunity to experiment with the platform under careful observation from the researchers from Heriot-Watt University. Feedback through Sign Language will be received from interactions with real users from such diverse linguistic backgrounds. These demonstrations will also provide knowledge on how to improve and refine the platform in preparation for the next demonstration. The languages used will be International Sign and English.

6.6 Tas Project Management

6.6.1 Objectives:

The main objective of Task 6, project management- led by EUD, in collaboration with Designit- is to continue to guarantee the correct implementation and progress of the Insign Project, making sure that all the tasks are completed in respect of the deadlines.

The daily management of the project continues to be in the hands of a three-person management team. The Project Coordinator, EUD´s Executive Director, Mark Wheatley acts as the official liaison with the European Commission and has final responsibility for the whole project. The Project Coordinator holds regular communications with the Commission' Services, via- amongst other- an *in situ* or video remote Sign Language interpreter.

The Project Coordinator works with Loreto Galán, appointed by Designit as the Administrative Coordinator. Based in the EUD Brussels's office, her task is to provide daily administrative and organisational support. Miguel Agustí, the Operational Coordinator, is responsible for maintenance of the quality and sustainability through the whole project, steered by the Service Design approach.

The success do far of the management team is the shared knowledge approach, o the range of issues covered in the project.

6.6.2 Methodology

The open, cooperative participatory and sustainable approach that is in the overall scope of the project, is also reflected in the way the management team carries out Task 6. This methodology has proved successful up to this stage of the project, receiving praise and good results from all partners. It will be continued to be used, leaving a flexible margin for unexpected changes
Management meetings are held every 15 days (or sooner if needed) where information on the Insign Project is shared, strengths and weaknesses are gauged to determine what are the specific focus points for the Management Team.

The Project Management Team monitors and discusses the overall progress of the project in substantial detail and identifies any issues that impact on the scheduled progress, deliverables and milestones.

In the management meetings, the aims are: to brief the management team on the upcoming Milestones, Tasks and Deliverables of the Insign Project in relation to the partner´s work and the expected results. For the benefit of the project, communication, sharing the results is encouraged mainly through Basecamp. And practical guidance on important topics such as Task evaluation, quality planning, dissemination, and sustainability are discussed. Possible risk elements are evaluated in order to be foreseen, prevented and to maximise success within the partners, stakeholders and contractor.

Partner meetings: The Administrative Coordinator has meetings with the task leaders individually, approximately every two weeks, in order to know progress of every task in detail, discuss any problems and issues and report back to the managing team.

6.6.3 Deliverables

With this Interim Report, two of the three deliverables from Task 6 will be completed.

All the reports have and must be be written in accordance to the European Commission´s requirements. The Final Draft Report that will recapitulate the work carried out for the full implementation of the Insign project, accompanied by al the deliverables.

6.6.4 Calendar

Management team meetings will continue to be held every two weeks, increasing if necessary (as it happened during the weeks previous to the Demonstration of the platform in the European Parliament.) Mainly celebrated in Brussels, where two members of the management team are based (Project Coordinator and Administrative Coordinator) they will continue to follow the established Quality Assurance plan, being subject to flexible changes if necessary, for the benefit of the project.

7 Findings and essential follow-up actions.

- **Task 1 Review of Current relevant communication practices, VRS/VRI technologies and service provision**

  The review of current practices has revealed that the implementation of telecommunications services for deaf and Hard of Hearing people is increasing worldwide, but it has to improve. There are clear guidelines and recommendations available for the development and provision of such services that are based on research and experience. Deaf and Hard of Hearing users are keen to have access to video relay services and / or video remote interpreting services or text based services according to their language preferences (see **Annex A.VI:** the Executive Summary of the Literature Review). All users confirm that the availability of such a service is desirable but acknowledge that the technological requirements need to be adequate (see **Annex** A.VII User surveys).

- **Task 2 Description of the Platform**

  The call scenario proposed for the captioning is inaccurate. On the version presented during the first demonstration the Hard of Hearing user was texting with the captioner while he/she should have been able to speak. As for the background, the Hard of Hearing caller will speak instead of sending a text. The user website must implement this mode of managing captioning call.

- **Task 3 Description of the Platform**

  Although efsli was assured that the captioners/respeakers hired for the demonstration at the European Parliament were already fully trained and experienced, it quickly became apparent that they had not been trained sufficiently in relaying live calls. efsli is now contacting the training institutions, e.g. the University of Roehampton, to discuss the additional specialist training required and will design a training package that can be piloted and put in place before the next demonstration in September.

- **Task 4 Demonstration of the Platform**

  From the demonstration on April the 9th 2014 raised two issues that have to be addressed by IVèS:

  European Parliament Wi-Fi network is from time to time overloaded and is not providing enough quality to make video call with a crystal clear video. IVèS will work with EU IT department to setup QoS to raise the priority of video calls 2) The interpreters desk needs to be tested and certified for Insign project to make sure that no technical issue will occur on the interpreter´s side. A process will be defined to let the call centre manager tes exhaustively interpreter desks.

  HWU preliminary observations of the first demonstration in Brussels can be seen in Annex A.XVII

  Evaluation of communication - it has been observed that there were some problems on the technical side in almost all of the pre-scheduled calls observed with the MEPS on the morning of 9th April, and also with the live demo call involving a Hard of Hearing person and a respeaker on the afternoon of the same date during the Insign launch conference event. The live call using a deaf International Sign user and an International Sign interpreter went well without any technical problems, and the communication flow was non-problematic. Comments have been provided to IVèS, efsli and SignVideo in preparation for the Ambassador's Demonstration in Athens in May, so that any initial problems can be ironed out and the service improved both technically and communicatively.

- **Task 5 Conceptualising a sustainable platform**

  The insights from the research stages will feed part of the service model definition. Designit already have a working technological and interpretation platform and input about all of the stakeholder's needs, expectations and concerns. This will be taken into account in the service and business model definition.

  The business design core work will start after the user experience inputs at the Ambassadors' demonstration (Athens of May 15th.) Specific business and service design collaborative methodologies will be used to generate a sustainable and user-based model.

- **Task 6 Project Management**

The overall management of the Insign project has achieved positive results so far. Possible risks or problems have been foreseen and prevented, The management team plans to continue in the same line of work, targeting the points that need to be improved, as, for example the coordination for the preparation of reports

8 Annexes