



User Manual

**Accessibility Content Manager
(ACM)**

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1 INTRODUCTION

The **Accessibility Content Manager** (ACM) is a cloud-based user friendly application of FingerCloud for a centralised management and processing of access services such as **Subtitles for the Deaf or Hard-of-Hearing (SDH), Open Subtitles, Spoken Subtitles, Audio Description** and **Sign Language**.

The application consists of the following components:

- ACM User Interfaces.
- ACM Engines for automatic background processes.
- ACM Web-Services and Interconnections with the broadcaster's systems.

This document explains how the different stakeholders (chapter 2) can access the ACM User interfaces (Chapter 3) and use the following ACM User Interfaces (Chapter 4):

- System Management interface (Chapter 4.1): Interface for administrative, configuration and maintenance issues related to the suite functionality and users coordination.
- Content Management interface (Chapter 4.2): Most significant ACM interface for the access service production workflow management and the access to the catalogue contents.
- EDitor interface (Chapter 4.3): Interface for the producers (service providers or freelancers) to access their production works that have been assigned to them.

Finally as an example for the user interfaces, an scenario is explained with the complete workflow (Chapter 4.4).

In the Annex the user will find an explanation of each icon in the User Interfaces.

2 STAKEHOLDERS

This document is aimed at different stakeholders such as:

1. **Broadcaster's IT and maintenance departments**, may use System Management Interface (Chapter 4.1) for:
 - Configuring the system settings, templates, and engines
 - Users and profiles creation, configuration, and management
 - Handling errors and incidences by reviewing system logs and engine status
 - Accessing the engine job queues and their status

2. **Broadcaster's Accessibility department**, may use Content Management Interface (Chapter 4.2) for:
 - Creation/edition of assets (see Interfaces), which can be either manual or automatic (see interconnections)
 - Creation of access service files (manual or automatic)
 - Workflow management of access service file production
3. **Access service producers** (service providers and freelancers) will be given access to one of the following User Interfaces:
 - Editor Interface (chapter 4.3) when the access service production is done in the broadcaster's FingerCloud licence. In this case all the production works are assigned by the broadcaster and all the support materials such as the LQ video file and metadata are also provided. In this case producers can:
 - a. View the assigned access service works and navigate through them
 - b. Run the integrated Online Editors via the assigned works and complete them
 - c. Change the work status to "Completed" when the work is finished and therefore the final access service file is ready.
 - d. View feedback and comments coming from broadcaster and act accordingly
 - Content Mangement Interface (Chapter 4.2) when the producers perform all the workflow of uploading the programme suport materials such as the LQ video and metadata, and also perform the access service file production. In this case producers can:
 - a. Upload support materials such as LQ video and metadata
 - b. Create, import, and export access service files
 - c. Run the integrated Online Editors to edit the access service files
4. **Broadcaster's QA department**, may use Content Management Interface (Chapter 4.2) for:
 - Listing the access service files pending validation
 - Running the integrated Online Editor to verify the access service files that are pending validation. If the quality is not right, the QA team returns the corresponding production work back to the producer with the "Rejected" status and feedback information.
 - Communicating with the producers using the "Communication" interface.

- Validating the access service files when the quality is right for airing or publication. External systems can only get the access service files if they have been validated, although users with the right permission can access to all the access service files using the different views of the CM interface
 - Statistics and reports
5. **Broadcaster's playout/publication department**, may use Content Management Interface (Chapter 4.2) for:
- Search access service that are catalogue in ACM
 - Download access service files in specific file formats
6. **Broadcaster's systems**, may use the ACM interconnections and web-services as for example:
- The playout or publication systems can retrieve access service metadata, status and files for airing and publication purposes (only the verified access services are available for these systems)

3 HOW TO ACCESS THE ACM USER INTERFACES

In order to access the ACM, there are some basic requirements:

- Hardware: PC with at least i5 processor, 8 GB RAM. Screen resolution should be at least 1920×1080 pixels (a good graphics card is recommended).
- Browser: Last version of Chrome or Firefox (at least Chrome version 74 or Firefox version 65).
- Fast internet connection as the tools are online and videos are used along the workflow.

The user accesses ACM via the web browser (figure 1) and enters username and password previously provided by administrator.

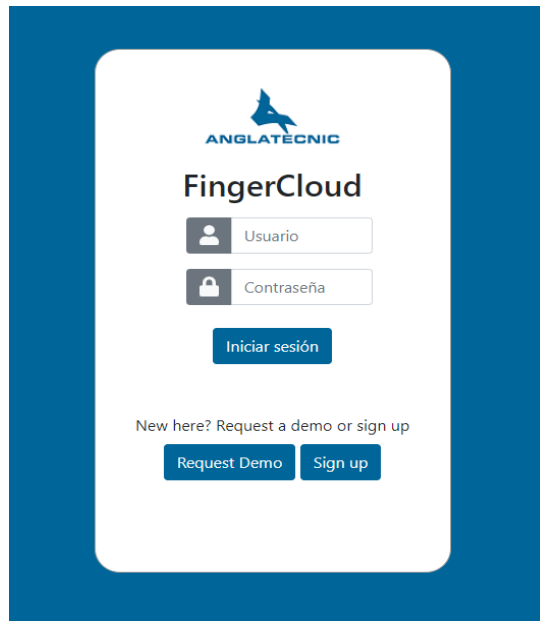


Figure 1: Login page

4 ACM USER INTERFACES

In this chapter, a detailed user manual of the ACM interfaces is presented.



Figure 2: Top menu

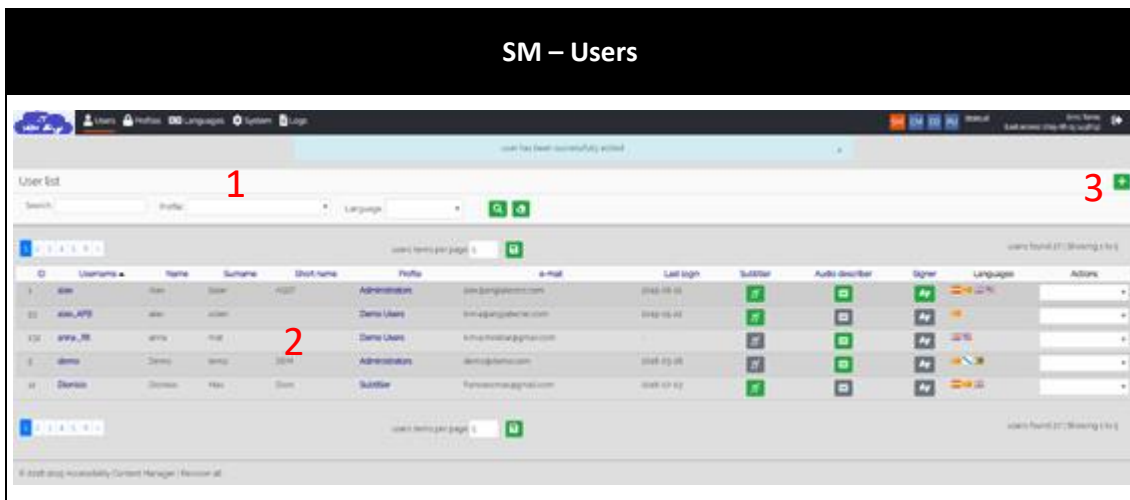
The user can open the different ACM interfaces with access rights by pressing the corresponding button at the top menu. Also, the user interface language can be selected from this menu. In this chapter, a detailed user manual of the ACM various interfaces (SM+CM+ED) is presented.

4.1 SYSTEM MANAGEMENT INTERFACE

System Management is defined as platform administrative interface and allows administrators and broadcaster managers with system administrative duties to control and manage the settings and permissions of professional users working in the ACM. The top left menu gives access to different sub-sections of SM.

4.1.1 USERS

An interface to view/create/edit users which is described in detail in table 1.



The screenshot shows the 'SM - Users' interface. At the top, there is a navigation bar with 'Users', 'Profile', 'Language', 'System', and 'Login' options. Below this is a search area with three filters: 'Search', 'Profile', and 'Language', each with a dropdown menu and a search icon. A red '1' is placed over the search area. Below the search area is a table of users. The table has columns for ID, Username, Name, Surname, Short name, Profile, e-Mail, Last login, Subtitle, Audio describer, Signer, Language, and Actions. A red '2' is placed over the table. At the bottom right of the table, there is a green plus sign button. A red '3' is placed over this button. Below the screenshot is a table with three rows, each corresponding to a red number in the screenshot.

ID	Username	Name	Surname	Short name	Profile	e-Mail	Last login	Subtitle	Audio describer	Signer	Language	Actions
1	Admin	Admin	Admin	Admin	Administration	admin@pangloss.com	2023-10-25	ST	AD	SL	Ar	
2	Admin_APP	Admin	Admin	Admin	Demo Users	admin@pangloss.com	2023-10-25	ST	AD	SL	Ar	
3	Admin_APP	Admin	Admin	Admin	Demo Users	admin@pangloss.com	2023-10-25	ST	AD	SL	Ar	
4	Admin	Admin	Admin	Admin	Administration	admin@pangloss.com	2023-10-25	ST	AD	SL	Ar	
5	Admin	Admin	Admin	Admin	Administration	admin@pangloss.com	2023-10-25	ST	AD	SL	Ar	

1	With this tool, user can search through the existing users based on three different criteria: <u>Free search</u> , <u>Profile type</u> , <u>Language</u>
2	The list of users is available in this part. All the registered users can be found here with their following information: <ul style="list-style-type: none"> ID number (unique), Username (by clicking on it – in the case of having permissions of user edition – the logged in user is redirected to a form page for editing the settings belonging to clicked-on user – see figure 3), Full name and short name, Profile, email address, Last login date and time, the access service production works they are able to perform (ST, AD, SL), The languages for which they can work, Actions available (edition, deletion, block)
3	By clicking on this positive sign button, a new user can be added

Table 1: Users list

At the moment of creating/editing a user, the form shown in figure 3 appears. This form needs to be completed to create/edit users. The required information in the form is typical and basic (access user and password, personal information, and access profile).

It is noteworthy that all the users including broadcasters and access service producers are created here. In the case of a producer such as subtitler, audio describer or sign interpreter the corresponding options should be marked and also the languages they aim to work with (figure 3).

Username:
 Password:
 Profile: Subtitle ▾
 Name:
 Surname:
 Short name:
 e-mail:
 Last login: -
 Subtitle:
 Audiodescriptor:
 Signer:
 Languages:
 American English
 British English
 Catalan
 Dutch
 French
 Galician
 German

Figure 3: User edition/creation form

4.1.2 PROFILES

It is important for any system at this scale to define profiles, because the level of permissions is different for each user depending on their duties, so there is a need to define different levels of access and permissions for groups of users. This is described in detail in table 2.

SM – Profiles		
1	With this tool, user can search through the existing profiles	
2	A list of typical profiles on ACM with their description	
3	By clicking on this button, the user can add a new profile	

Table 2: Profiles

By clicking on the positive sign button on the top right of the page, the user is redirected to a separate page consisting of a form for profile creation. In this environment, the technician can choose different capabilities and access permissions for the profile (reading, editing, deleting, downloading). The detailed description of the profile form is presented in table 3.

SM - Profile form	
1	General information of the profile (name and description).
2	Access permission to different tree branches of CM, with possibility to choose among existing folders on the ACM as the root of new tree branch.
3	Various access permission to various sections of the ACM.

Table 3: Profile form

4.1.3 LANGUAGES

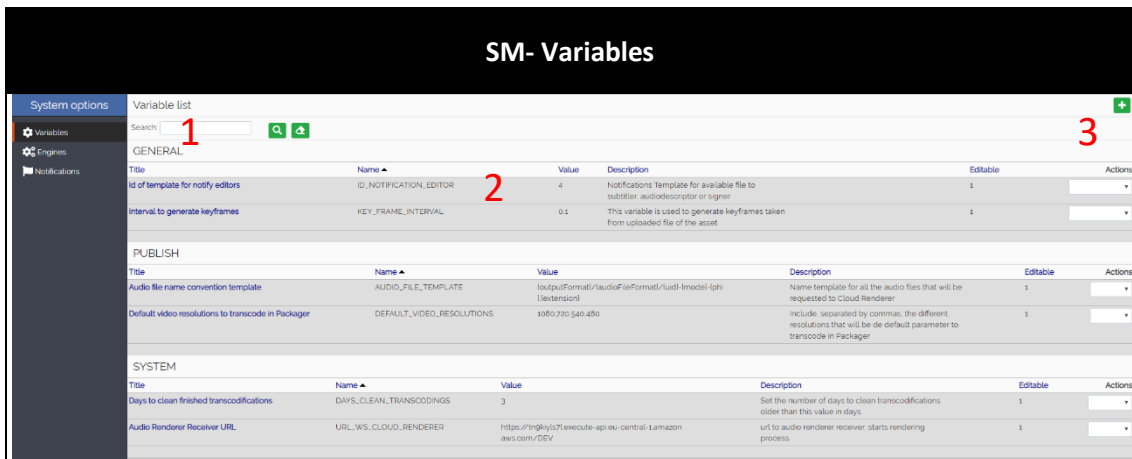
In this sub-chapter, new languages for the access service contents can be created or existing ones can be edited (table 4).

SM – Languages	
1	With this tool, the user can search through the existing languages
2	List of existing languages with their locales, by clicking on the language name, the user is redirected to the edition page
3	Add a new language to this list depending whether its locale is known or not

Table 4: Languages list

4.1.4 SYSTEM

“System” section corresponds to administrative actions operated by system administrators or broadcaster IT/IS managers. It is divided into five parts which will be discussed respectively in tables 5, 6, 7, 8, 9 and 10.



In this section some system variables can be set or modified, for instance during the installation and customization of ACM. By default, this list is empty and IT admins create variables according to broadcasters needs. Some examples may include: Default image sizes, video keyframes generation time interval, default video resolution.

Variables are divided into three categories:

- **GENERAL:** corresponds to general interface variables.
- **PUBLISH:** corresponds to variables related to web service in general.
- **SYSTEMS:** corresponds to system variables.

1	With this tool, the user can search through the existing variables.
2	List of existing variables with their characteristics, by clicking on the variable’s name, the user is redirected to an edition page
3	By clicking on the positive sign, the user is able to create a new variable

Table 5: System variables

SM - Engines

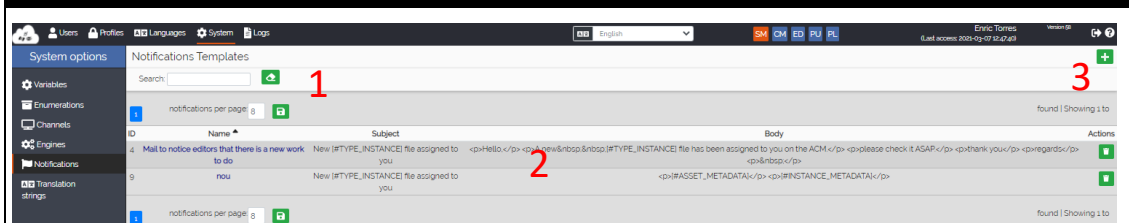


This section shows the working queues of the ACM engines (background processes without user interaction). New engines can be added in the future. Some examples may include: Trans-codification of multimedia.

1	With this tool, the user can search through the existing engines
2	List of existing engines with their characteristics

Table 6: System engines

SM - Notifications

















This section lets the user configure notification and mailing templates using a special form. The form is shown in figure 4.

1	With this tool, the user can search through the existing notification templates.
2	List of existing templates with their name, subject and body, by clicking on the name, the user is redirected to an edition page.
3	By clicking on the positive sign, a creation form is opened.

Table 7: Notification templates list

SM - Channels

ID	Name	Description	Actions
1	Telecinco		 
2	BE MAD		 
3	CUATRO		 
4	DIVINITY		 
5	ENERGY		 
6	BOING		 
7	TEST		 

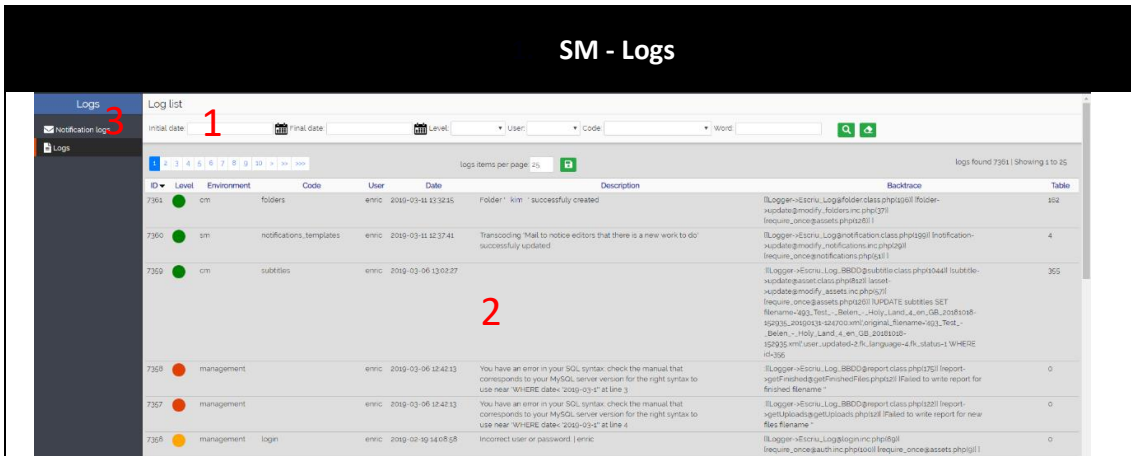
This sections allows the user to add or edit the channel configuration for the Playlist interface.

Table 10 Channels

4.1.5 LOGS

Logs section can be important for administrative tasks especially when an incidence occurs on the interface. Table 10 shows the interface.

SM - Logs



ID	Level	Environment	Code	User	Date	Description	Backtrace	Table
7361	cm	folders		enric	2019-03-11 13:52:35	Folder " kim" successfully created	ilLogger->Escriu_Log(folder class php125061 Folder- update@modify_folders.php:371 require_once@assets.php:125051	102
7360	sm	notifications.templates		enric	2019-03-11 12:37:41	Transcoding Mail to notice editors that there is a new work to do successfully updated	ilLogger->Escriu_Log(notification class php125061 notification- notification@modify_notifications.php:1291 require_once@notifications.php:141	4
7359	cm	subtitles		enric	2019-03-06 13:03:27		ilLogger->Escriu_Log_BBDD@subtitles class php1250441 subtitle- update@asset class php125021 insert- update@modify_access.php:197 require_once@assets.php:125051 UPDATE subtitles SET filename=agg_Test_1_Belen_1_Holy_Land_4_en_GB_20181028- sgp3s_en@sgp3s_cau@proc@enriginal_filename=agg_Test_1- Belen_1_Holy_Land_4_en_GB_20181028- 157935.xml?user_updated=2&fk_language=4&fk_status=1 WHERE id=359	365
7358	management			enric	2019-03-06 12:43:13	You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'WHERE date= 2019-03-1' at line 3	ilLogger->Escriu_Log_BBDD@report class php1251751 report- agentFinished@getFinishedFiles.php:2211 Failed to write report for finished filename	0
7357	management			enric	2019-03-06 12:42:32	You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'WHERE date= 2019-03-1' at line 4	ilLogger->Escriu_Log_BBDD@report class php1251751 report- agentUploads@getUploads.php:12121 Failed to write report for new file filename "	0
7356	management	login		enric	2019-02-29 14:08:58	Incorrect user or password enric	ilLogger->Escriu_Log@login.php:191 require_once@auth.php:125061 require_once@assets.php:125051	0

This section lets the user check the logs at the system level. All events happened on the platform are registered here with their useful data. These can be user, system, background and interconnection events.

1	With this tool, user can search through the logs based on various factors (date, user, section, level of event, code, word).
2	List of existing logs with their name, level, date, description and backtrace.
3	Notification logs are a list of notifications sent to the responsible person.

Table 11: Logs

4.1.6 USE CASE

In this sub-chapter, the following scenario is elaborated to clarify SM functionality. This scenario is an example on how to create a new profile for subtitle managers, setting the access permissions of this profile conveniently and then creating a new user based on this profile.

1. We enter the form (table 3) and we create a new profile named “Subtitle manager”.
2. This profile aims to people who want to manage the subtitling workflow.
3. Figure 5 shows the specifications of this profile, note the permissions this profile has.
4. Next move, we go to User creation form to create a new user, now it is possible to assign the profile we just created to the new user, figure 3 shows how it is done.

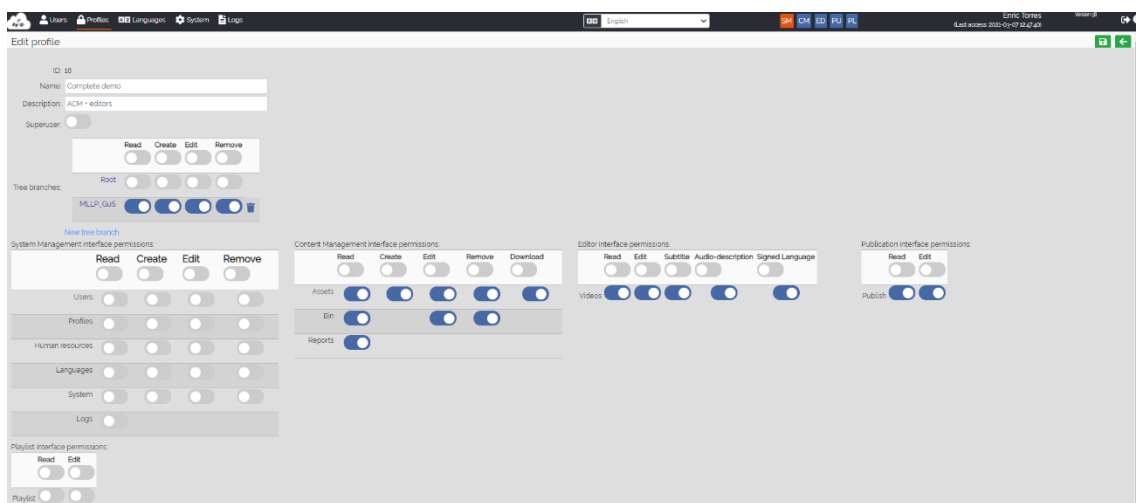


Figure 5: Creating the “Subtitle manager” profile

4.2 CONTENT MANAGEMENT INTERFACE

Content Management interface is the place where all the access service contents can be found, managed and controlled. It is divided into the following subsections that are explained in the next sub-chapters:

- Assets – management of assets with their materials, access service contents and production works
- File view – management of access service files directly instead of being found in assets
- Bin – a temporary bin to keep deleted assets
- Reports – stores statistical data and information about the CM

4.2.1 ASSETS

Due to the importance of CM and assets, this interface is going to be explained section by section. Figure 6 shows assets main page.

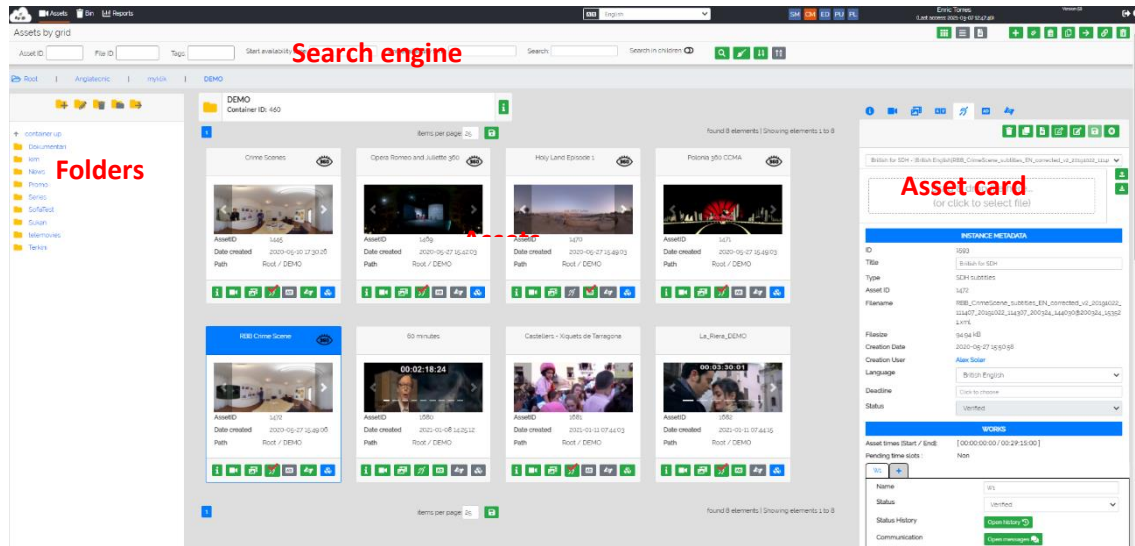


Figure 6: Assets main page

The contents are organised in a structure called “Assets”. Each asset is created to manage the production and cataloguing of access service files (ST, SL, AD) in different languages for one 2D or 360° programme. It also contains all the necessary metadata to describe the asset and its instances (an instance is a version of the programme, such as the LQ video, a subtitles file, etc.).

It is both possible to create a single asset by the button on the top right or create multiple assets via another button in the same place (see Annex I). Assets can also be created automatically by the background process of importing LQ videos from an FTP folder or using the dedicated API call.

At the creation phase, the user is required to upload the 2D or 360° video and enter some metadata and to finally save the action. As a result, an asset is created as in figure 7. This illustration demonstrates how an asset looks like. As seen, some icons are still in grey which means there are no instances or data available from that type of content. However, video is uploaded by the user so the video instance and the general metadata have turned green.

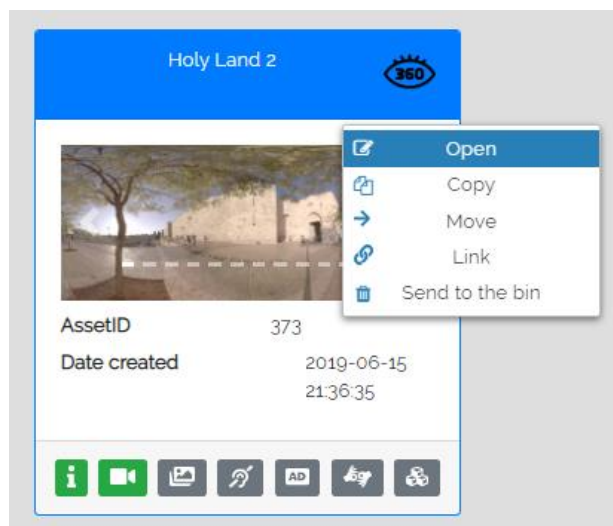


Figure 7: Asset card




By right-clicking a user is able to perform typical actions on the asset such as moving it to another folder, copying it to another folder, linking it or sending it to the bin (all actions can be done by using complementary buttons on the top right – see Annex I). Additionally, it is also possible to open the asset card. Next, we are going to see what is inside an asset card known as asset forms.

4.2.1.1 ASSETS FORMS

As demonstrated in 3.3.1 the assets list contains all of the available assets with their metadata and files. Table 12 shows what is observed when an asset form opens.

CM - Asset card and its form

The screenshot displays the 'CM - Asset card and its form' interface. On the left, an asset card for 'Holy Land Episode 1' is shown. It includes a video preview, a 360-degree icon, and metadata: AssetID 1470, Date created 2020-05-27 15:49:03, and Path Root / DEMO. Below the card, a 60-minute duration is indicated, followed by a video player showing a man speaking with a timestamp of 00:02:18:24. The player's metadata includes AssetID 1680, Date created 2021-01-08 14:25:12, and Path Root / DEMO. On the right, the 'General' information form is visible, containing fields for AssetID (1681), Title (Castellers - Xiquets de Tarragona), Synopsis, ProgrammID (P1022142), Episode N°, Season N°, Availability start/end dates, Folders (Root / DEMO), Original Language (Catalan), Video type (2D video), Rating (U), and user information (Created by Alex Soler, Updated by Alex Soler, Date created 2021-01-11 07:44:03, Last updated 2021-01-22 09:47:14). A 'More metadata' section includes a Genre dropdown menu.

1	The asset card is shown with a video preview, basic information and the availability of access service instances of each type (when the icon is green it means that at least an access service instance is available right now and when it is grey it shows that it does not exist any)
2	<p>General information form with:</p> <ol style="list-style-type: none"> 1. Title and comments 2. ID of the programme 3. Episode N° 4. Session N° 5. Availability 6. Original Language 7. User who has created it with related dates 8. The directory of the asset in the folders 9. Other useful metadata
	Access to the general information form (see table 12)
	Access to the video form (see table 13)
	Access to the images form (see table 14)




CM - Asset card and its form	
	Access to the subtitle form (see table 15)
	Access to the audio description form (see table 16)
	Access to the sign language form (see table 17)

Table 12: Asset card and its forms

Table 13 demonstrates in detail the video form of an asset.

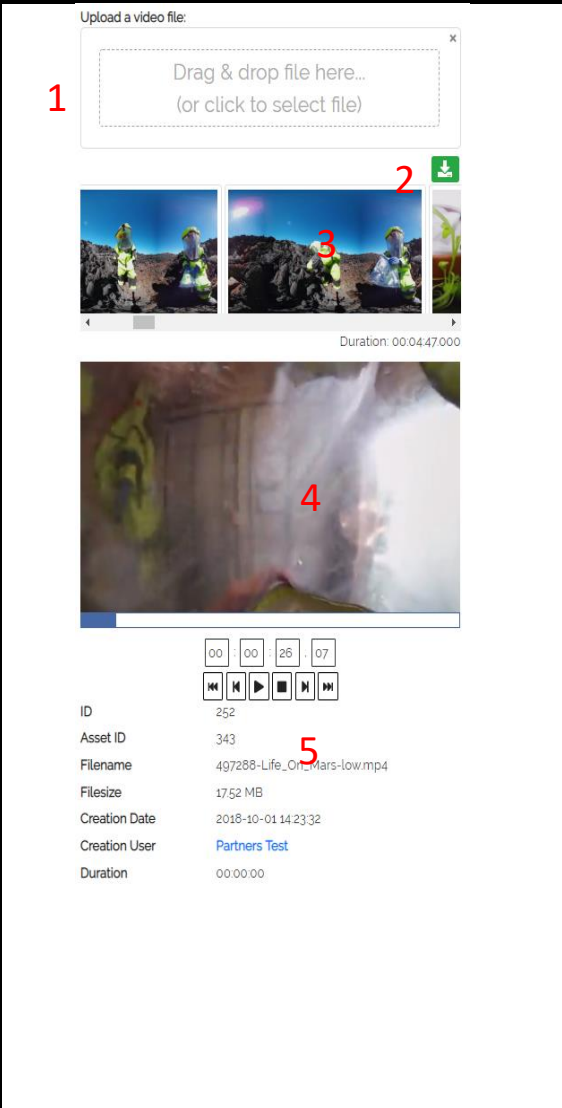
CM – Asset video form		
	The left image shows the video form	
	1	A place to upload a new video file from the hard drive
	2	A button to download the existing video to the hard drive
	3	A preview of the video shown in keyframes from it. Clicking on a keyframe takes you to that moment of the video. Right click shows you options
	4	Video player but in a small scale alongside with video control buttons (play, pause, stop, etc.)
5	General information of the video: <ul style="list-style-type: none"> • ID (unique) • Asset ID (unique) • File name • File size • Creation date • Creator • Video duration 	

Table 13: Asset video form

The next form is for “Images”. Every asset may contain several images which either can be uploaded by the user or be chosen among video frames. Table 14 shows more details.

CM – Asset Image form							
	<p>The left image shows the image form</p> <table border="1"> <tr> <td style="text-align: center; vertical-align: top;">1</td> <td>A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.</td> </tr> <tr> <td style="text-align: center; vertical-align: top;">2</td> <td>Image gallery, possible to view/delete images of different types</td> </tr> <tr> <td style="text-align: center; vertical-align: top;">3</td> <td>In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.</td> </tr> </table>	1	A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.	2	Image gallery, possible to view/delete images of different types	3	In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.
1	A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.						
2	Image gallery, possible to view/delete images of different types						
3	In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.						








Table 14: Asset Image form

The remaining forms of the Asset for the Access Service instances such as Subtitles (ST), Audio Description (AD) and Sing Language (SL) are quite similar. In table 15 we see what these forms contain. We have chosen ST in the table and have eliminated AL and SL for convenience, as ST form contain all of the information and it is the one with more options (some specifics of the AD and SL are also explained in table 15).

CM – Access service forms of the asset

<p>The left image shows the ST form</p>	
1	<p>A place to choose the preferred ST instance (with metadata and ST file), because an asset can contain multiple ST files by language and type</p>
2	<p>A button to upload an ST file from the hard drive with various formats. To this date following formats are available for ACM:</p> <p>ST: .SRT, WebVTT, TTML (IMSC), EBU-TT(D), .SBT, .STL, .SBM, .PAC, .RAC, .890</p> <p>AD: .NAR, .AD, ADPT (TTML2), ESEF, .BWAV, WebVTT, audio track</p> <p>SL: TTML-based format</p>
3	<p>A button to download the existing file to the hard drive, with option to be exported in various formats</p>
4	<p>Instance metadata:</p> <ul style="list-style-type: none"> • ID and Asset ID (unique) • Title and type • File name and size • Creation date and user • Language • Deadline • Status (see table 14 for details on status)
5	<p>A section called Works to create and assign the production works to a producer, change the status of the work, preview its history and communication messages between producer and broadcaster. When assigned, the producer is able to see their production works in their working space (ED).</p>
6	<p>Subtitle preview area showing details for subtitle p1 and p2, including TCIn, TCOut, Longitude, and Latitude.</p>

CM – Access service forms of the asset

	6	Preview of the ST file
		Deletes the file
		Copies (Clones) the file with existing TC to a new ST instance with possibility to choose new ST type and language.
		Adds a new ST instance with an empty ST file to be produced (possibility to choose Title and language)
		Runs the corresponding Online Editor with the LQ video and ST file
		Saves the changes (if no change is detected, the button is disabled)
		This button which only exists in the AD form, lets the user import mp3, wav and m4a audio tracks. These tracks are converted into AD files automatically with segments (at the moment of importing, choosing type and language is possible). The silences are detected to determine time codes for conversion of this track to an audio description file
		<p>This button only exists in AD and SL form and it is used for the following cases:</p> <ul style="list-style-type: none"> • When in AD, it lets the user chooses from an existing subtitle files in the same asset to be imported as an AD file with the same timings and script. • When in SL, it lets the user choose from existing subtitle files in the same asset to be imported as an SL file. This import helps the user to have the same timing and script from ST in order to transform


CM – Access service forms of the asset		
		the format to a sign language file and it facilitates the procedure, mainly when the sign language interpreter is deaf or hard of hearing.
		Closes the form

Table 15: Access Service forms of the Asset

Table 16 explains in details the different status types of any work would bear. These statuses are marked by the user or automatically and corresponds to the condition in which the work is in. The access service instance status is the worst of its work statuses.

Work status	
Pending	At first all instances and works are at this status by default and when created
In progress	Once the producer has started a work, the work status changes to <i>"In progress"</i>
Completed	When the file is finished by the producer, they can change the work status to <i>"Completed"</i> from the work card in the ED interface.
Verified	After the production work has being completed the broadcaster's Quality Assurance Department needs to either validate or reject the file after reviewing it. If everything is correct, the work status will change to <i>"Verified"</i> .
Rejected	<p>After being completed the broadcaster's Quality Assurance Department needs to either validate or reject the file after reviewing it. It is possible that they have some comments on the work and not satisfied with the result, for that they change the work status to <i>"Rejected"</i> along a rejection note for the producer. In this case the work will automatically be assigned again to the producer who will be able to answer the rejection note and proceed to the completion of the work.</p> <p>An example of how a status history of a work looks like is seen in the figure below. This dialogue appears when clicked on the <i>"Open history"</i> button in the work form on the asset card. Communication messages can also be used (see table 18).</p>


Work status	
Status History	
Alex Soler Rejected	2021-03-05 15:42:45 ^
Enric Torres Rejected	2021-03-05 16:05:21
Enric Torres Rejected	2021-03-05 16:06:49
Alex Soler Rejected	2021-03-05 19:17:14
Alex Soler In progress	2021-03-05 19:17:39
Enric Torres Pending	2021-03-05 20:06:08
Enric Torres	2021-03-05 20:06:08 v

Table 16: Work status

4.2.1.2 ASSETS CATALOGUING

This CM allows the user to manage and catalogue the assets and also their contents and properties individually. How an asset is managed and edited was explained above. Let's take a look on how the assets are catalogued. In addition to actions and buttons explained in the previous chapter and also In Annex I, there are two ways to catalogue assets as indicated in 3.3 introduction:

- By metadata (when in metadata view), so to find an asset the user needs to use the search bar on top.
- By folder tree (when in hierarchical view), so only assets in the folder are shown.

There is a small folder icon on the left of the tree branches list (see folder icon in figure 8) which lets the user switch between metadata view and hierarchical view. When the icon shows a closed folder the metadata way is selected, when it is an open folder the hierarchical way is selected.

When in metadata view if the user uses the search engine on the top, the search will be performed in all the database but only from the folders that the user has access rights.

IN hierarchical view, folder tree of CM have the objective of creating a more flexible and organised interface. They can contain assets in its folders which are editable. The folders which are accessible by the user are those that are in the tree branches defined and configured in the profile of the user from SM (see table 3). The tree branches which are granted access to the user

will appear on top of the CM interface page (see tree branches list in figure 8). If the user uses the search engine on the top, only the results in the specific folder and children folders (if the “Search in children” checkbox is marked) will appear as a search result.

It is possible to create/delete/edit/move/copy folders and navigate through them. Navigating by folder comes in handy when the work volume of broadcaster is high and the programmes are numerous, so the user can organise the work based on criteria they look for (based on schedule of emission, importance, channels, etc.).

There are basically two methods to perform basic operations on folders such as edit, copy, etc: by buttons on the top of the folder tree or by right-clicking on any of them.

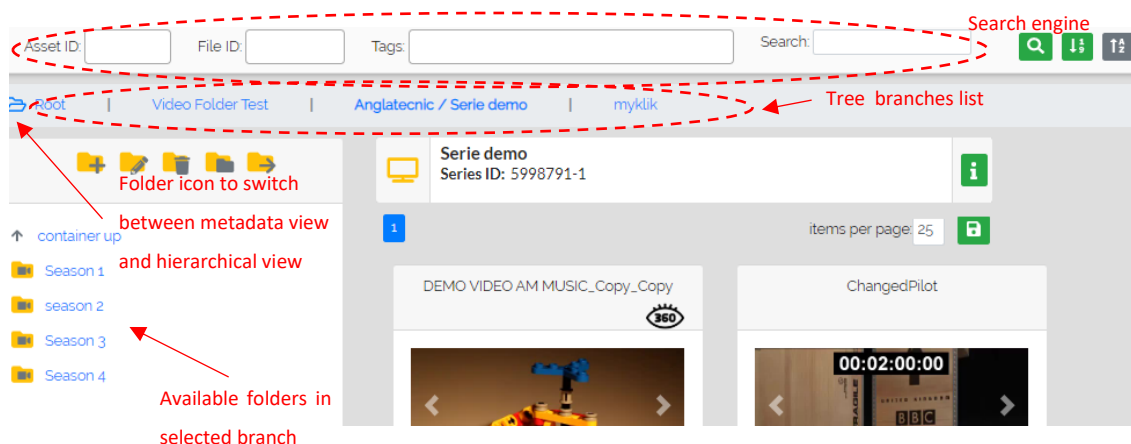
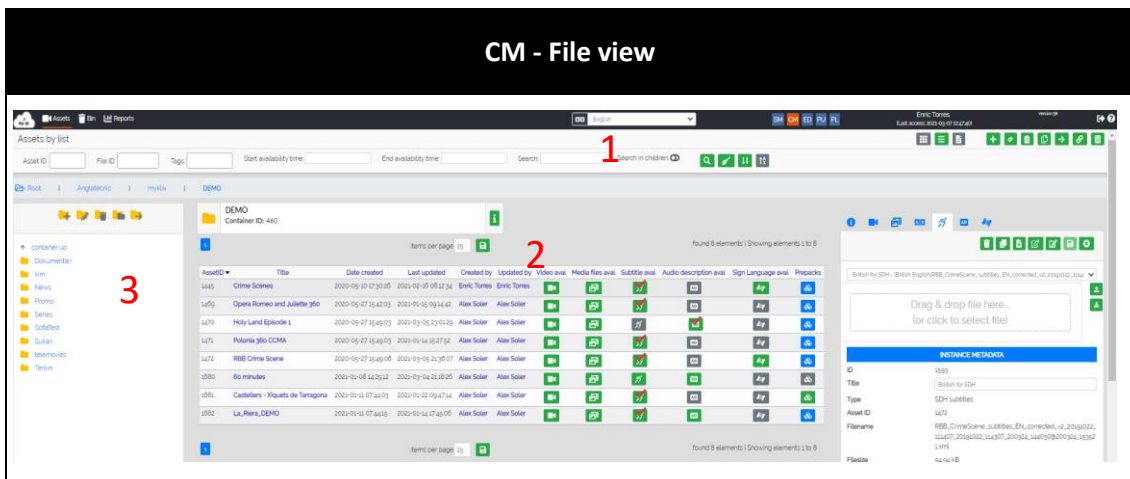


Figure 8: Folders and branches in CM

4.2.2 FILE VIEW

In addition to the points mentioned in previous chapters, CM gives the user the possibility to navigate through assets and their instances in three different modes. The default mode elaborated earlier views assets as a collection (“List view “or “Grid view”). However, in addition to these, it is possible to switch to a “File view” that shows not assets, but all the access service files available on the folder. By file, we mean three different access service file types available (ST, AD and SL). Like assets, files can either be displayed on metadata view or hierarchical one. Table 17 displays more information in this sense.

This view is very useful for the quality assurance (QA) department users that need to find the files that have the “Completed” status and therefore they can review them and set the new status to “Verified” or “Rejected”.



This view gives the user the available access service files


	<p>This is the button that gives the user this view on the top menu</p>
<p>1</p>	<p>On the top of the page, there are search boxes with following criteria:</p> <ol style="list-style-type: none"> 1. Free search 2. File type which can be either: <ol style="list-style-type: none"> I. Subtitles II. Audio description III. Sign language 3. File status 4. Language
<p>2</p>	<p>List of files with following information and the possibility to order by them:</p> <ol style="list-style-type: none"> 1. ID 2. File name 3. Asset title (programme title) 4. Creation date 5. Last updated 6. File size 7. Language 8. Status 9. Producers 10. Asset ID 11. Type
<p>3</p>	<p>It is possible to navigate through files by folder hierarchy as well</p>

Table 17: File view

4.2.3 BIN

Bin acts like a recycle bin for the system. Contents which have been moved to bin cannot be edited or changed but it can be restored back into Assets or can be deleted forever.

4.2.4 REPORTS

In this subsection, we can check out the statistical data and information showed in an interactive manner that can be understood by all users. To this date, three charts are displayed:

- Downloaded files
- New files
- Finished files

We can search through this data by date. Figure 9 shows the page clearly:

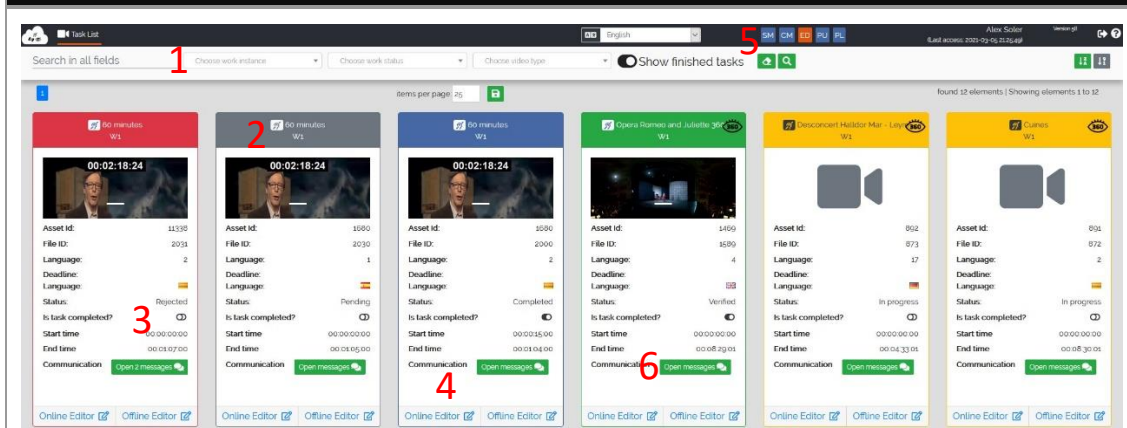


Figure 9: Reports

4.3 EDITOR INTERFACE

This is the interface specially destined to access service producers and lets them view their previously assigned works, search through them and more importantly gives them direct access to integrated online editors (there are separate user manual for each online editor such as Web ST Editor, Web AD Editor and Web SL Editor). Table 18 shows more details.

ED - Work list



<p>Search bar (1)</p>	<p>With this tool, the user can search through their assigned production works based on work type (ST, AD, SL), status and media type (2D, 3260°, audio), and view them alphabetically, including finished works or not. Each card on the interface correspond to a work for the producer.</p>
<p>Work icon (2)</p>	<p>These icons show the type of production work: it can be either a subtitle, a sign language, or an audio description work. The colour of the row shows the status of the work (<i>Pending</i>: in grey, <i>In progress</i>: in yellow, <i>Completed</i>: in blue, <i>Rejected</i>: in red, and <i>Verified</i>: in green).</p>
<p>Work status (3)</p>	<p>The user can view the status of the work and only can changed it to <i>Completed</i> when the work is finished.</p>
<p>Online Editor (4)</p>	<p>By clicking on this button the corresponding Online Editor will be executed with the video file, metadata and the access service file for the production with specific ID number.</p>
<p>System language (5)</p>	<p>ED interface and the Online Editors are available in different languages. There is an option on top right of the ED interface page to select the language which will be saved as the user preference for all the interfaces and editors.</p>
<p>Communication messages (6)</p>	<p>Communication messages between the producer and the broadcaster can be done through this option. For instance, when a work is <i>Rejected</i> by the Accessibility Quality Assurance Department of a broadcasting station, the person who has rejected it needs to explain and justify the reasons of the decision to the producer. The producer is able to see this justification by clicking on the Communication icon in the work card on the ED interface.</p>

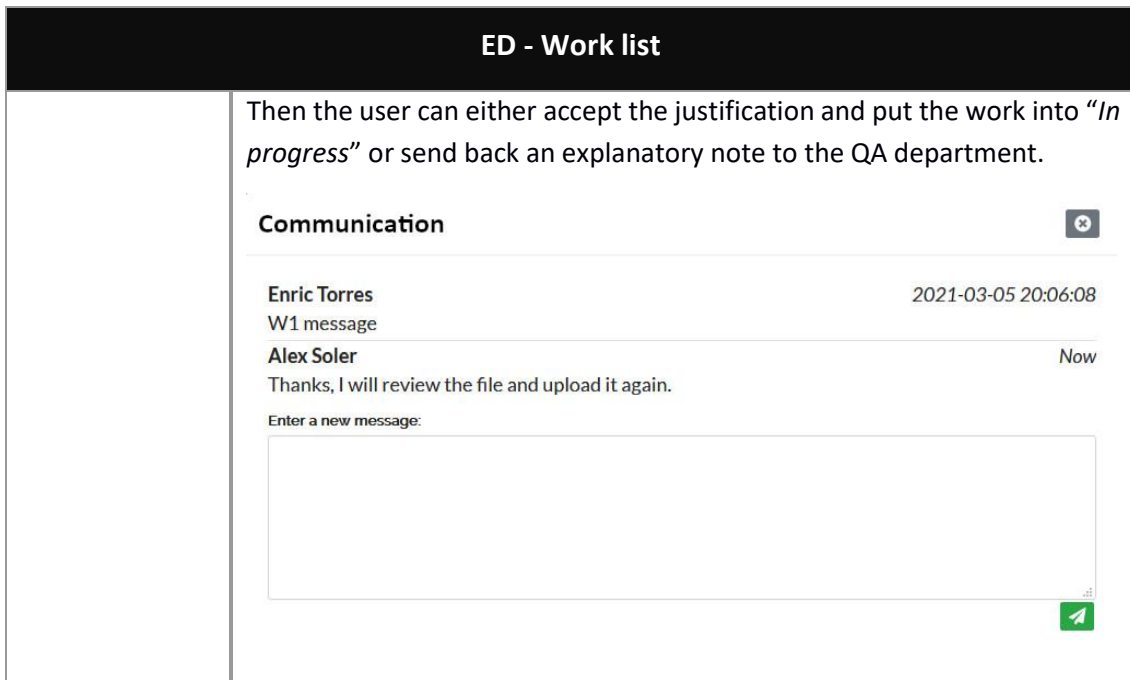


Table 18: Work list

4.4 USE CASE

Now that the reader is familiar with every section of ACM, we will explain how it works through a given scenario. The complete workflow is shown in figure 10.

1. When the broadcaster requires access services for a programme (point 1 of figure 10) an asset corresponding to that programme is necessary in CM and it can be created in either of the following ways:
 - a. Manually using the top right buttons to create a new asset (see annex I), uploading the LQ video of the programme and editing its metadata.
 - b. Automatically by receiving a LQ video of the programme via FTP (point 2 of figure 10), or by a background process using the API.
2. After the asset with the LQ video is created there are some typical operations for assets like moving, copying, linking and erasing.
3. The user goes to the desired access service form when a new access service instance is required, creates a new instance (with an empty access service file), and edits its metadata (see table 15).
4. From the new instance, the user assigns the work of producing the access service file to one or various producers such as subtitlers, audio describers or signers who comply with the criteria for this specific production (point 3 of figure 10). Optionally, the user can create various works to distribute the production to different producers, each work with its start time and end time parameters will be assigned to producers (by default there is only one work from the start time to the end time of the asset).

5. From the ED interface a producer (professional or external service provider) performs the production works that have been assigned to them using the Online Editors (point 4 of figure 10) and when each production is finished, the producer changes the corresponding work status to “Completed” (point 5 of figure 10).
6. Once the production work is set to “Completed”, the access service file (the same access service can be divided in several files if the production is distributed in several works) is ready to be reviewed and validated by the broadcaster’s quality assurance (QA) department. One good recommendation to the QA user is to change the CM interface to “File list view” and order the files by their status to find out which production works are completed in order to review them. After review they either change the work status to “Verified” or “Rejected” alongside a rejection reason note to the producer (point 6 of figure 10). When rejected, the work is automatically re-assigned to the producer with the rejection reason in the communications dialog.
7. Once the access service status is verified (only when all the works of the access service instance have the verified status), the broadcaster’s play-out system or other publication systems can access the access service files in order to air or publish the access service (point 7 of figure 10). For this it is necessary that the platform is fully integrated with the broadcaster’s systems.

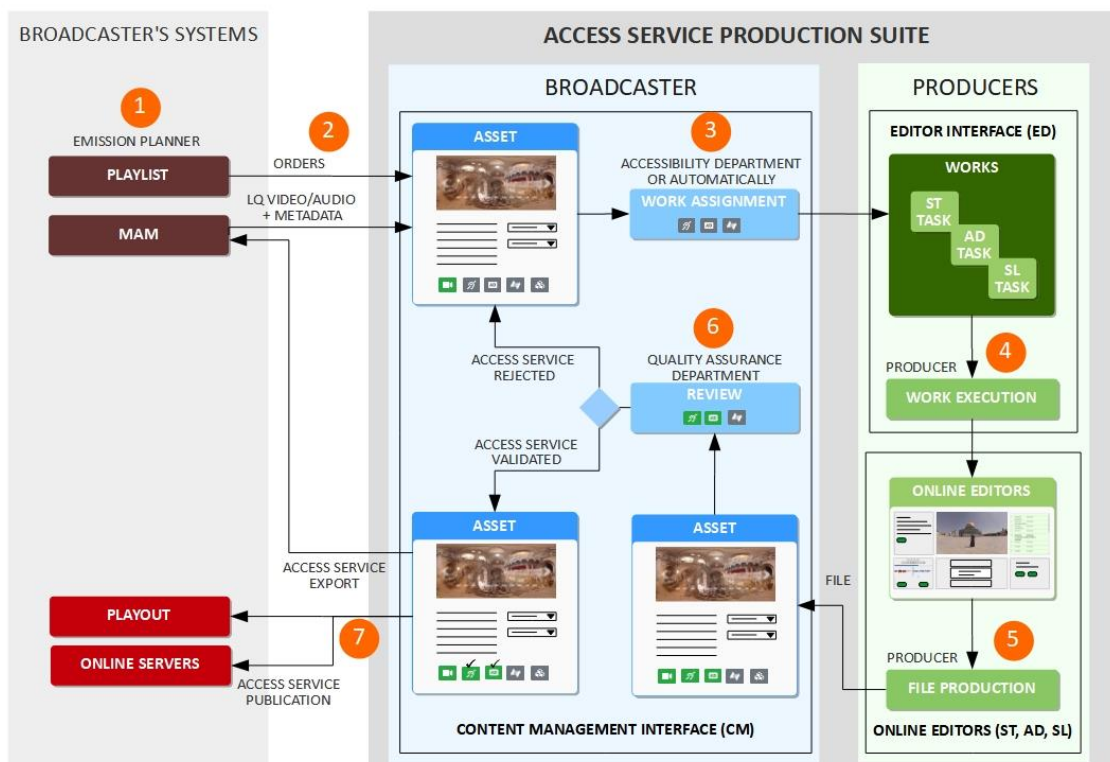









































Figure 10: Production and publication/airing workflow

ANNEX I: ICONS GUIDE

Icon	Usage
	Subtitle form
	Audio description form
	Sign language form
	Image form
	Video form
	General asset information form
	Communications
	Status history
	Sort assets by numerical order
	Sort assets by alphabetical order
	Switch to file view
	Switch to list asset view
	Switch to grid asset view
	To be used when the user wants to add a new asset
	When the user wants to import assets from FTP where the high resolution video resides
	The user selects one or various asset (for multiple selection use the Ctrl key) and with this button chooses the destination among folders where they are copied
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button chooses the new destination among folders where they are moved
	A button to “Select all” assets in the page
	Upload and create multiple assets using a dialogue

Icon	Usage
	This button lets the user edit multiple assets common characteristics at once
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button create links to them
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button erases them
	Publish assets with at least one verified access service file (it turns blue)
	Save changes (when no change is made, the button is disabled)
	Create a new instance in a new language from the current access service instance (TCs are kept)
	Open the Online Editor with the access service file
	Import new AD/SL file from an existing ST file from PC
	Import an audio file from PC in order to use it as an AD instance
	Close asset form
	Upload file for the instance
	Download file of the instance
	Add a new instance
	Restore the asset inside bin back to asset list
	Delete the asset in the bin forever
	Add a new folder
	Edit folder
	Send folder to the bin
	Copy folder
	Move folder