



Cosmos by PlayBox Technology

User Guide

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Introduction

Cosmos is a quick and simple playlist creation tool with autonomous play-out of multiple channels. With the facility, at any time, to take full control of the live play-out. All this functionality available as a web application that runs in a modern browser.

The Cosmos screen is split into 6 main parts.



The key parts of the Cosmos application

1. The playlist area.
2. A channel selector.
3. A panel showing all the media clips and materials that can be added to a channel. A search facility across all materials allows for rapid compilation of playlists.
4. A preview area for any clip and a panel of associated metadata.
5. Easy to use live play-out controls for each channel.
6. A quick way to save and load playlists.

Cosmos - Getting Started and In Detail

This section will quickly get you creating playlists and putting them on-air.

ShotBox gives you even greater control over your playlists and live play-out.

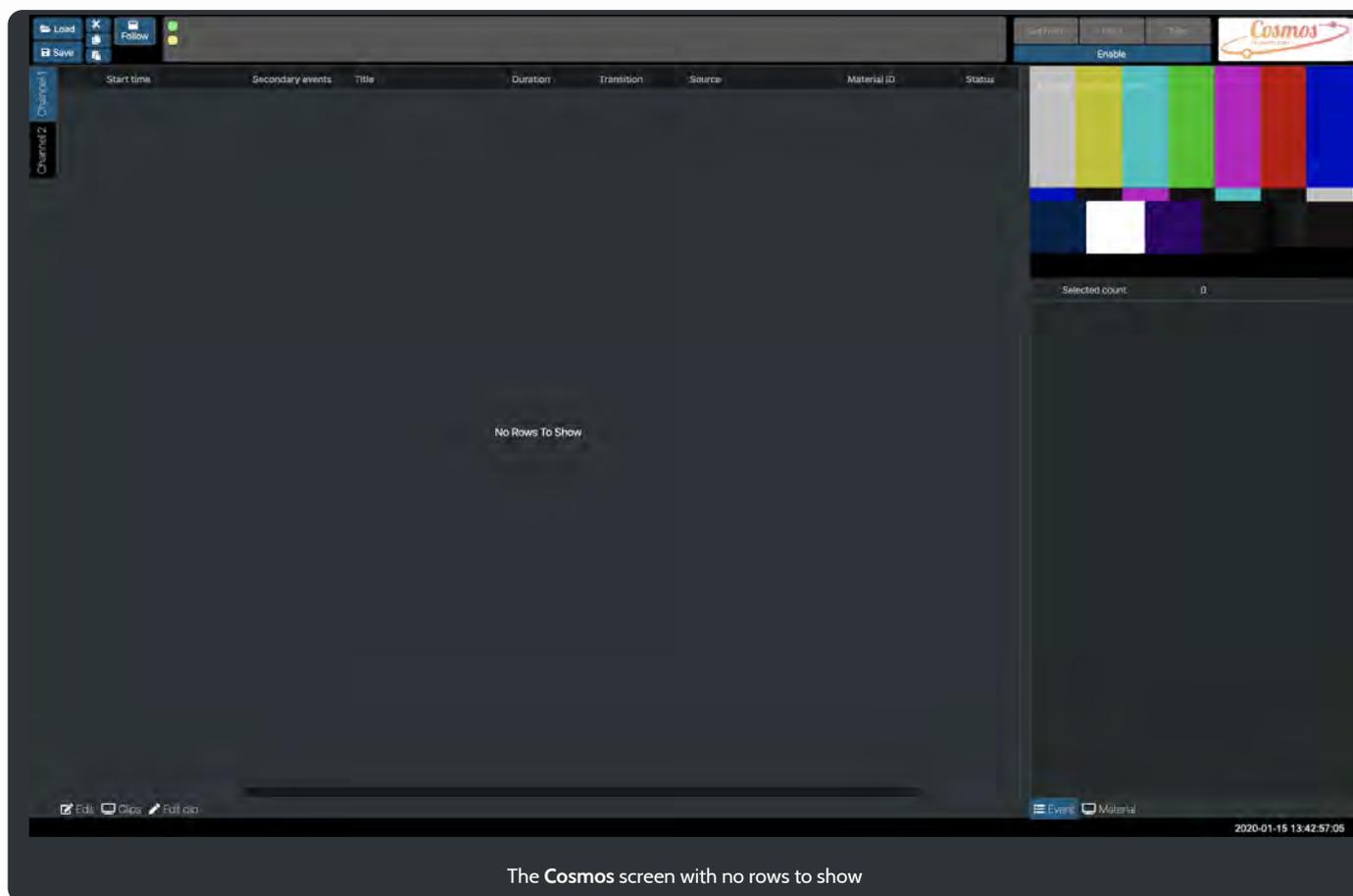
Later in the documentation all parts of the application are described in detail. This section you can use as a reference tool to increase your knowledge of the Cosmos application.

Other parts include a **Channel configuration** tool and a Cosmos **Administrator** screen. These parts of the software should only be accessed by users who have a thorough understanding of the Cosmos system and also have administrator privileges on the host PC.

Cosmos

Getting started

When first opening the Cosmos window you will see a mostly blank screen.



In the centre of the Cosmos interface is an area for our playlists. At the moment we have not created or loaded any playlists so **No Rows To Show** is displayed.

In the top left is an area where you load and save playlists, cut, copy and paste media clips into a playlist.

Just beneath this is the currently selected channel. Two channels have been created - Channel 1, Channel 2 - and Channel 1 is selected.

Adding some clips to the playlist

With **Channel 1** selected we can click on the Clips button at the bottom of the screen to see the clips available.

The screenshot shows the Cosmos user interface. At the top, there are navigation buttons (Load, Save, Follow) and a status bar with 'Enable' and the Cosmos logo. The main area is a table with columns: Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The table is currently empty, displaying 'No Rows To Show'. Below the table is a 'Channel 1' section with a table of clips. The table has columns: Material, Title, Material type, Duration, Series, and Production number. The row for 'EXOMARS: Ready for Scie...' is selected. To the right of the clips table is a metadata panel with sections for 'Technical metadata' and 'Production metadata'. The 'Production metadata' section shows details for the selected clip, including Title, Material type, Series, and Production number. At the bottom right, there is a timestamp: 2020-01-15 13:44:01:12.

Material	Title	Material type	Duration	Series	Production number
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21		
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA	
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA	
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons	
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA	
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA	
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA	
A Duck's Life		Unknown	00:01:44:25		
AladdinAndTheWonderfull...		Unknown	00:07:53:09		
Autumn Lakes Master XDC...		Commercial	00:08:41:21		
Big Cat Sanctuary		Unknown	00:02:24:09		
carmentosupper	Test title	Presentation	00:08:06:20		
North-Korea		Promotion	00:32:43:09		

Clicking on any clip row will display further information on the right side of the screen.

We will take a detailed look at the features of the Clips panel later.

But first, lets add a clip to a playlist.

The screenshot shows the same Cosmos user interface as before, but with the 'EXOMARS: Ready for Scie...' clip selected in the Clips panel. The clip is highlighted in blue. The metadata panel on the right is still visible, showing details for the selected clip. The 'Add at end' button is visible at the top right of the Clips panel.

Material	Title	Material type	Duration	Series	Production number
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21		
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA	
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA	
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons	
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA	
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA	
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA	
A Duck's Life		Unknown	00:01:44:25		
AladdinAndTheWonderfull...		Unknown	00:07:53:09		

Select a row in the Clips window that you want to appear in your playlist.

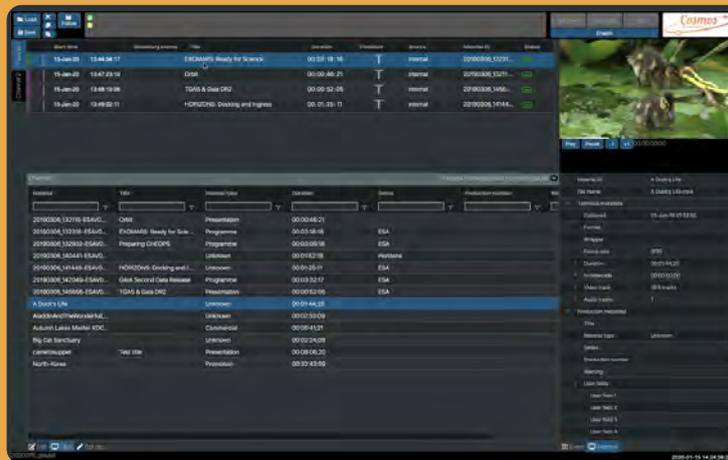
20190306_132315-ESAV0... EXOMARS: Ready for Scie... Programme 00:03:18:18 ESA

Click the **Add at end** button at the top of the Clips panel. The selected clip will now be added to the playlist area at the top of the screen.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	

Please be aware that some material items may not match the channel/playlist framerate.
If this is the case, a warning will appear at the top of the Clips panel

Material Framerate does not match playlist



Add some more clips by selecting another row in the clips panel and click the **Add at end** button.

The screenshot displays the Cosmos interface with a list of clips in the main panel and their metadata in the right-hand panel. The clips list includes:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
15-Jan-20 13:47:23:10		Orbit	00:00:46:21	T	internal	20190306_132115-ES/	
15-Jan-20 13:48:10:06		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
15-Jan-20 13:49:02:11		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ES/	

The right-hand panel shows the metadata for the selected clip (Material ID: 20190306_132115-ESAV0001). The metadata includes:

- File Name: 20190306_132115-ESAV0001.m...
- Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format
 - Wrapper
 - Frame rate: ndf25
 - Duration: 00:00:46:21
 - In-timecode: 10:00:00:00
 - Video track: 16:9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: Orbit
 - Material type: Presentation
 - Series
 - Production number
 - Warning
 - User fields: User field 1, User field 2, User field 3, User field 4

It is important to note that whenever a clip is selected in the **Clips** panel its associated metadata is displayed in the **Material** panel on the right. At the top of this panel a clip preview with play / pause video transport controls is shown. Other controls include a plus one and minus one frame stepper.

The screenshot displays the Cosmos interface with the clip 'GAIA Second Data Release' selected in the main panel. The clips list includes:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_13231...	
15-Jan-20 13:47:23:10		Orbit	00:00:46:21	T	internal	20190306_13211...	
15-Jan-20 13:48:10:06		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_1456...	
15-Jan-20 13:49:02:11		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_1414...	

The right-hand panel shows the metadata for the selected clip (Material ID: 20190306_142049-ESAV0006). The metadata includes:

- File Name: 20190306_142049-ESAV0006...
- Technical metadata:
 - Captured: 13-Jun-19 21:53:09
 - Format
 - Wrapper
 - Frame rate: ndf25
 - Duration: 00:03:32:17
 - In-timecode: 10:00:00:00
 - Video track: 16:9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: GAIA Second Data Release
 - Material type: Programme
 - Series: ESA
 - Production number
 - Warning
 - User fields: User field 1, User field 2, User field 3, User field 4

The clip preview at the top of the right panel shows the text 'GAIA SECOND DATA RELEASE' and the date '23/04/2018'.

The clip GAIA Second Data Release was selected from the clips panel

The screenshot displays the Cosmos software interface. At the top, there are navigation buttons for 'Load', 'Follow', and 'Save'. Below this is a 'Channel 2' playlist table with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The 'Orbit' clip is selected, and the 'Add after Orbit' button is highlighted. To the right of the playlist is a video player showing a 3D model of a planet. Below the playlist is a 'Channel 1' table with columns for Material, Title, Material type, Duration, Series, and Production number. The 'Orbit' clip is also listed here. On the right side, there is a metadata panel with sections for Technical metadata and Production metadata. At the bottom, there are buttons for 'Edit', 'Caps', and 'Edit clip', and a status bar showing '20200115_playlist' and '2020-01-15 14:55:28:05'.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	Internal	20190306_13231...	
15-Jan-20 13:47:23:10		Orbit	00:00:46:21	T	Internal	20190306_13211...	
15-Jan-20 13:48:10:06		TGAS & Gaia DR2	00:00:52:05	T	Internal	20190306_1456...	
15-Jan-20 13:48:02:11		HORIZONS: Docking and Ingress	00:01:25:11	T	Internal	20190306_14144...	

Material	Title	Material type	Duration	Series	Production number
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21		
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA	
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA	
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons	
20190306_141445-ESAV0...	HORIZONS: Docking and I...	Unknown	00:01:25:11	ESA	
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA	
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA	
A Duck's Life		Unknown	00:01:44:25		
AladdinAndTheWonderful...		Unknown	00:07:53:09		
Autumn Lakes Master XDC...		Commercial	00:05:41:21		
Big Cat Sanctuary		Unknown	00:02:24:09		
cametosupper	Test title	Presentation	00:08:06:20		
North-Korea		Promotion	00:32:43:09		

The clip Orbit was selected from the playlist panel

When a position in the playlist is selected, in this case the Orbit clip, note the change in button **Add after 'Orbit'**. Now it is possible to add a clip after the selected playlist item. This is particularly useful if you wish to add several clips to the playlist at various positions and not just at the end.

Later, we look at how to reorder the contents of a playlist, but first lets save the four clips we have added.

Saving a playlist

With four items added to our playlist we are now going to save our work.

The screenshot shows the Cosmos application interface. On the left, there are two channels. Channel 1 has four items in its playlist:

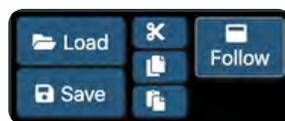
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_13231...	🟢
15-Jan-20 13:47:23:10		Orbit	00:00:46:21	T	internal	20190306_13211...	🟢
15-Jan-20 13:48:10:06		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_1456...	🟢
15-Jan-20 13:49:02:11		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_14144...	🟢

Below the playlist is a table with columns: Material, Title, Material type, Duration, Series, Production number, and Warning. The 'Orbit' item is selected.

On the right, there is a 'Cosmos' logo and a 'Enable' button. Below that is a 3D visualization of a planet with a ring system. At the bottom right, there is a metadata panel for the selected item 'Orbit'.

Material ID: 20190306_132115-ESAV0001
 File Name: 20190306_132115-ESAV0001...
 Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format: [blank]
 - Wrapper: [blank]
 - Frame rate: rdt25
 - Duration: 00:00:46:21
 - In-timcode: 10:00:00:00
 - Video track: 16-9 tracks
 - Audio tracks: 8
 Production metadata:
 - Title: Orbit
 - Material type: Presentation
 - Series: [blank]
 - Production number: [blank]
 - Warning: [blank]
 User fields:
 - User field 1: [blank]
 - User field 2: [blank]
 - User field 3: [blank]
 - User field 4: [blank]

In the top left corner of the window are the tools that will allow us to save and load playlists.



Click on the **Save** button. A modal window appears where you can enter the name of your playlist.

The modal window is titled 'Channel 1' and has a close button (X) in the top right corner. It contains a text input field labeled 'Playlist name' and a 'Save' button. The input field is currently empty.

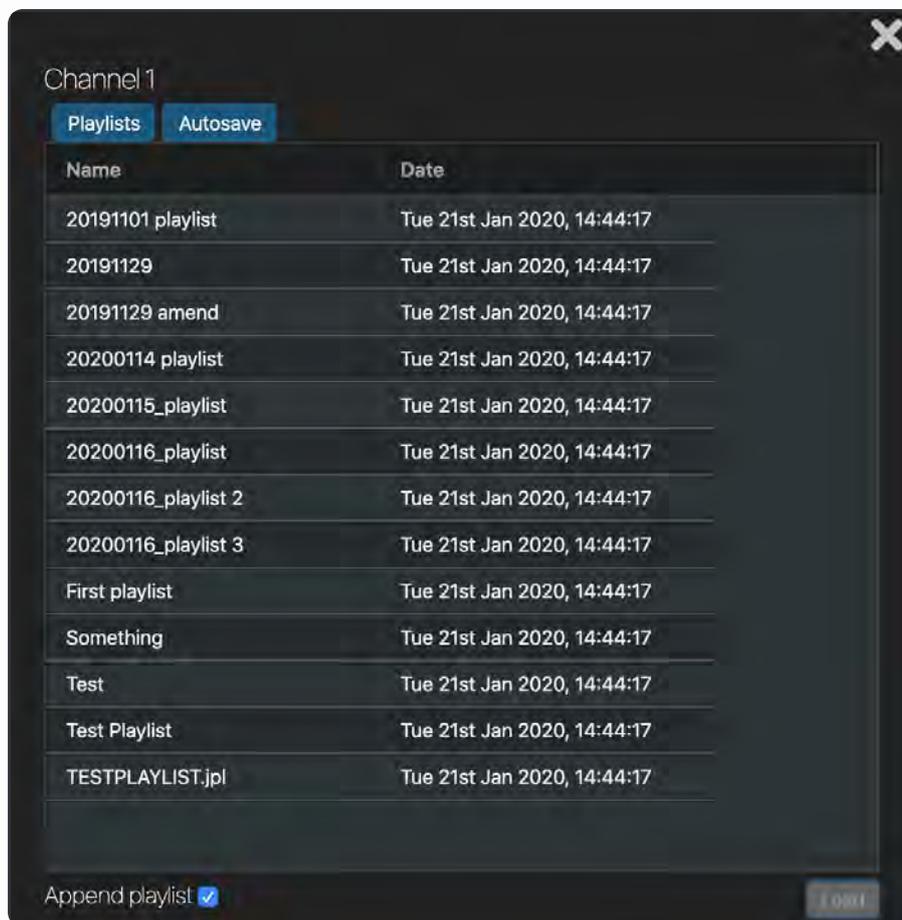
Once you have entered a name the Save button will become active. Clicking on Save will close the window and return you to the Cosmos application.

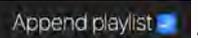
The modal window is the same as the previous one, but now the 'Playlist name' input field contains the text '20200121_playlist'. The 'Save' button is now active (highlighted in blue).

If you do not want to save the playlist, or you have opened the save window in error just click on the close button in the corner of the window.

Loading a playlist

You can reload a saved playlist by clicking on . This will show you all the saved playlists for the current selected channel, Channel 1.



At the bottom of this window is the option to .

With this checked, the selected playlist in the load playlist panel will be **added** to the current playlist in the Channel 1 window. Un-check the Append playlist option to **replace** the playlist in the Channel 1 window with the currently selected playlist in the load panel.

You can append a loaded list to itself and this cannot be undone.
So please take careful note of the append buttons state before loading a playlist.

Re-ordering the clips in a playlist

Cosmos was designed with ease of use at its core. It has several quick and easy ways of adding an item or reordering the items in a playlist.

Adding clips and reordering items in a playlists

The screenshot displays the Cosmos software interface. At the top, there are navigation buttons for 'Load', 'Save', and 'Follow'. Below this is a 'Channel' sidebar with 'Channel 1' and 'Channel 2'. The main area shows a playlist table with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The playlist contains four items:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	🟢
16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-ES/	🟢
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	🟢
16-Jan-20 11:38:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ES/	🟢

Below the playlist is a search bar and a table of available clips. The 'GAIA Second Data Release' clip is selected. To the right, a metadata panel for the selected clip is visible, showing details such as Material ID, File Name, and various technical and production metadata.

Select where you want to insert a clip. Please note the clip will be inserted **after** the selected item in the playlist.

The screenshot shows the Cosmos software interface. At the top, there are navigation buttons (Load, Save, Follow) and a status bar. The main area is divided into two channels. Channel 1 shows a playlist of clips with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Material ID. Channel 2 shows a video player with a play button and a progress bar. On the right, a metadata panel displays details for the selected clip, including Material ID, File Name, Technical metadata (Captured, Format, Wrapper, Frame rate, Duration, In-timecode, Video track, Audio tracks), Production metadata (Title, Material type, Series, Production number, Warning), and User fields.

Channel 1	Channel 2	Metadata
16-Jan-20 11:31:47:23 EXOMARS: Ready for Science 00:03:18:18 T internal 20190306_132315-ES/	Play Pause -1 +1 10:00:00:00	Material ID 20190306_132115-ESAV0001
16-Jan-20 11:35:06:16 Orbit 00:00:46:21 T internal 20190306_132115-ES/		File Name 20190306_132115-ESAV0001.m...
16-Jan-20 11:35:53:12 TGAS & Gaia DR2 00:00:52:05 T internal 20190306_145656-ES		Technical metadata
16-Jan-20 11:36:45:17 HORIZONS: Docking and Ingress 00:01:25:11 T internal 20190306_141445-ES/		Captured 13-Jun-19 21:49:37
		Format
		Wrapper
		Frame rate ncl25
		Duration 00:00:46:21
		In-timecode 10:00:00:00
		Video track 16-9 tracks
		Audio tracks 8
		Production metadata
		Title Orbit
		Material type Presentation
		Series
		Production number
		Warning
		User fields
		User field 1
		User field 2
		User field 3
		User field 4

In this case the Orbit clip in the playlist is selected

Then select the clip to add in the list of Clips.

The screenshot shows the Cosmos software interface with the same playlist and metadata panel. The 'HORIZONS: Docking and Ingress' clip is now selected in the playlist, and its metadata is displayed on the right.

Channel 1	Channel 2	Metadata
16-Jan-20 11:31:47:23 EXOMARS: Ready for Science 00:03:18:18 T internal 20190306_132315-ES/	Play Pause -1 +1 10:00:00:00	Material ID 20190306_141445-ESAV0005
16-Jan-20 11:35:06:16 Orbit 00:00:46:21 T internal 20190306_132115-ES/		File Name 20190306_141445-ESAV0005...
16-Jan-20 11:35:53:12 TGAS & Gaia DR2 00:00:52:05 T internal 20190306_145656-ES		Technical metadata
16-Jan-20 11:36:45:17 HORIZONS: Docking and Ingress 00:01:25:11 T internal 20190306_141445-ES/		Captured 13-Jun-19 21:53:09
		Format
		Wrapper
		Frame rate ncl25
		Duration 00:01:25:11
		In-timecode 10:00:00:00
		Video track 16-9 tracks
		Audio tracks 8
		Production metadata
		Title HORIZONS: Docking and Ingress
		Material type Unknown
		Series ESA
		Production number
		Warning
		User fields
		User field 1
		User field 2
		User field 3
		User field 4

The row's background changes colour to indicate that it is the selected item.

20190306_141445-ESAV0... HORIZONS: Docking and Ingress Unknown 00:01:25:11 ESA

Click on **Add after 'Orbit'**

The screenshot displays the Cosmos software interface. At the top, there are buttons for 'Load', 'Follow', 'Save', and 'Enable'. Below this is a table of clips for 'Channel 1' with the following data:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:35:08:18		Orbit	00:00:48:21	T	internal	20190306_132115-ES/	
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145856-ES	
16-Jan-20 11:38:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ES	

Below the table is a playback control bar with 'Play', 'Pause', and volume buttons. A second table below shows a list of materials with columns for Material, Title, Material type, Duration, Series, and Production number. The 'HORIZONS: Docking and Ingress' clip is highlighted. To the right, a metadata panel shows details for the selected clip, including File Name, Technical metadata (Captured, Format, Wrapper, Frame rate, Duration, In-Streamcode, Video track, Audio tracks), and Production metadata (Title, Material type, Series, Production number, Warning, User fields).

At the bottom of the interface, there are buttons for 'Edit', 'Circs', and 'Edit clip', and a timestamp '2020-01-16 12:48:04.03'.

The HORIZONS clip is added after the Orbit clip

Using cut, copy and paste to reorder the clips

Right click on an item in the playlist and a cut, copy, paste and add comment menu appears. Please note, as before, the pasted item always appears after the selected clip.

The screenshot shows the Cosmos interface with a playlist. The 'Orbit' clip is selected, and a context menu is open over it. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20	11:31:47:23	EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESV	
16-Jan-20	11:35:06:16	Orbit	00:00:46:21	T	internal	20190306_132115-ESV	
16-Jan-20	11:35:53:12	HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESV	
16-Jan-20	11:39:45:17	TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ESV	
16-Jan-20	11:37:37:22	GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ESV	
16-Jan-20	11:39:38:14	HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESV	

The right-hand panel shows metadata for the selected clip:

- Material ID: 20190306_132115-ESAV0001
- File Name: 20190306_132115-ESAV0001.m...
- Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format: rdi25
 - Duration: 00:00:46:21
 - In-timecode: 10:00:00:00
 - Video track: 16:9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: Orbit
 - Material type: Presentation
 - Series: ESA
 - Production number: [empty]
- Warning: [empty]
- User fields: User field 1, User field 2, User field 3, User field 4

Right click the Orbit clip to cut it from the playlist

The screenshot shows the Cosmos interface after the 'Orbit' clip has been pasted back into the playlist. The 'Orbit' clip is now highlighted in blue, and its position in the playlist is between the 'EXOMARS: Ready for Science' and 'EXOMARS: Ready for Science' clips. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20	11:31:47:23	EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESV	
16-Jan-20	11:35:53:12	HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESV	
16-Jan-20	11:36:45:17	TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ESV	
16-Jan-20	11:37:37:22	GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ESV	
16-Jan-20	11:39:38:14	HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESV	

The right-hand panel shows metadata for the selected clip:

- Material ID: 20190306_142049-ESAV0006
- File Name: 20190306_142049-ESAV0006.m...
- Technical metadata:
 - Captured: 13-Jun-19 21:53:09
 - Format: rdi25
 - Duration: 00:03:32:17
 - In-timecode: 10:00:00:00
 - Video track: 16:9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: GAIA Second Data Release
 - Material type: Programme
 - Series: ESA
 - Production number: [empty]
- Warning: [empty]
- User fields: User field 1, User field 2, User field 3, User field 4

The Orbit clip is pasted back into the playlist at the GAIA clip

The screenshot shows the Cosmos interface with a playlist for Channel 2. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESv	
16-Jan-20 11:35:53:12		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESv	
16-Jan-20 11:36:45:17		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:37:37:22		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ES	
16-Jan-20 11:41:10:14		Orbit	00:00:46:21	T	internal	20190306_132115-ESv	
16-Jan-20 11:41:02:00		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESv	

The 'Orbit' clip is highlighted in blue, indicating it is the current selection. The interface also shows a metadata panel on the right and a bottom status bar with the date 2020-01-16 13:44:08.

The Orbit clip appears after the GAIA clip

Swapping a clip

To quickly change an item in the playlist, first select the item.

The screenshot shows the Cosmos interface with a playlist for Channel 2. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315...	
16-Jan-20 11:35:06:16		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656...	
16-Jan-20 11:35:58:21		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049...	
16-Jan-20 11:47:19:23		Orbit	00:00:46:21	T	internal	20190306_132115...	
16-Jan-20 11:54:32:19		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445...	

The 'GAIA Second Data Release' clip is highlighted in blue, indicating it is the current selection. The interface also shows a metadata panel on the right and a bottom status bar with the date 2020-01-28 11:14:34.

The GAIA clip is selected

Then select the clip you want to swap with the selected item in the playlist.

The screenshot shows the Cosmos interface with the 'Clips' panel open. The 'Clips' panel displays a list of clips with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The clip 'Preparing CHEOPS' (Material ID: 20190306_132932-ESAV0...) is selected. The 'Update' dropdown menu is open, showing options: 'Update'GAIA Second Data Release'', 'Add after'GAIA Second Data Release'', and 'Add after'Preparing CHEOPS''. The 'Material' dropdown is also open, showing a list of materials with columns for Material, Title, Material type, Duration, Series, and Production number. The 'Preparing CHEOPS' clip is highlighted in the list. The 'Event' dropdown is set to 'Material'. The bottom status bar shows '20200116_playlist 2 (Modified)' and the date '2020-01-28 11:14:37-23'.

The Preparing CHEOPS clip is selected in the Clips panel

Click on **Update'GAIA Second Data Release'**.

The item in the playlist - **GAIA** - will be swapped with the selected clip - **Preparing CHEOPS**.

The screenshot shows the Cosmos interface with the 'Playlist' panel open. The 'Playlist' panel displays a list of items with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The item 'Preparing CHEOPS' (Material ID: 20190306_132932-ESAV0...) is now in the playlist, having swapped with the 'GAIA Second Data Release' item. The 'Update' dropdown menu is open, showing options: 'Update'Preparing CHEOPS'', 'Add after'Preparing CHEOPS'', and 'Add after'GAIA Second Data Release''. The 'Material' dropdown is also open, showing a list of materials with columns for Material, Title, Material type, Duration, Series, and Production number. The 'Preparing CHEOPS' clip is highlighted in the list. The 'Event' dropdown is set to 'Material'. The bottom status bar shows '20200116_playlist 2 (Modified)' and the date '2020-01-28 11:14:42-03'.

The Preparing CHEOPS clip appears in the playlist

Before moving on to the next section it would be a good opportunity to save your work. You can save the playlist over any other existing playlist by calling it the same name. Alternatively, type a new name for your playlist.

Adding a comment

Right click on an item in the playlist and select Add comment, the bottom item, from the drop-down menu that appears.

The screenshot shows the Cosmos interface with a playlist table. A context menu is open over the 'Orbit' clip (Material ID: 20190306_132115-ESA). The menu options are: Cut, Copy, Paste, and Add comment. Below the playlist is a table of materials.

Material	Title	Material type	Duration	Series	Production number	Warning
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cametosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			

At the bottom of the interface, the text "Right clicking on the Orbit clip" is displayed.

The screenshot shows the Cosmos interface with a comment panel open for the 'Orbit' clip. The panel has a text input field and a 'Colour' dropdown menu. The playlist table is visible in the background.

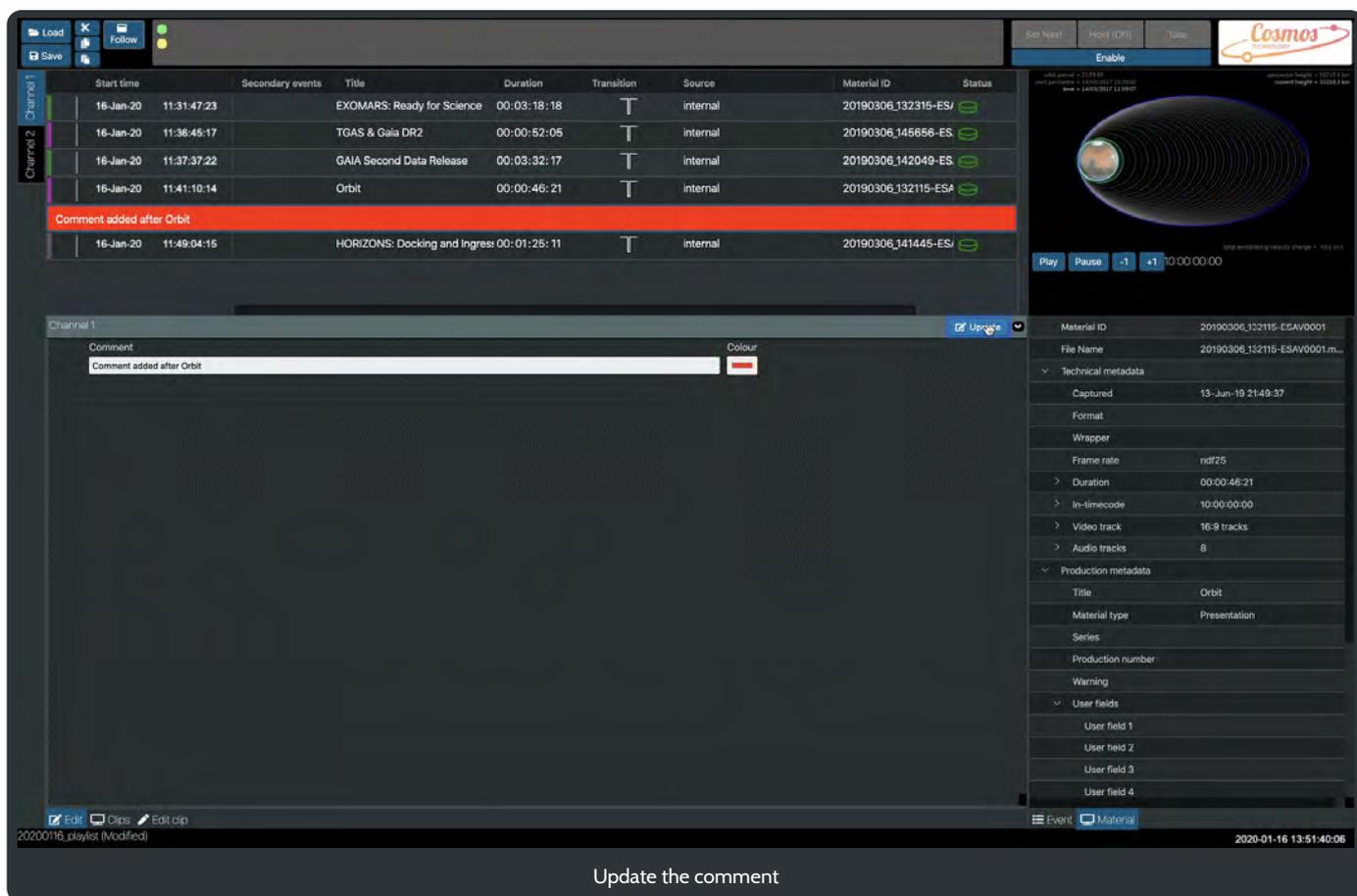
Material	Title	Material type	Duration	Series	Production number	Warning
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cametosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			

At the bottom of the interface, the text "A comment panel appears where you can add a comment and change the colour" is displayed.

Comment Colour 

Comment added after Orbit

After you have added some text and modified the colour click on  . The comment line will update in the playlist.



The screenshot displays the Cosmos software interface. At the top, there is a 'Comment' field with the text 'Comment added after Orbit' and a 'Colour' selector set to red. Below this is a playlist table with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The table contains several entries, with the 'Comment added after Orbit' entry highlighted in red. To the right of the table is a visualization of a satellite orbit around Earth. Below the table is a 'Channel 1' window with an 'Update' button. At the bottom right, there is a metadata panel for the selected item, showing details like Material ID, File Name, and various technical and production metadata.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47.23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:36:45:17		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:37:37.22		GAI A Second Data Release	00:03:32:17	T	internal	20190306_142049-ES	
Comment added after Orbit							
16-Jan-20 11:41:10:14		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	
16-Jan-20 11:49:04:15		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ES/	

Channel 1 

Comment Colour 

Comment added after Orbit

Material ID: 20190306_132115-ESA0001
 File Name: 20190306_132115-ESA0001.m...
 Technical metadata:
 Captured: 13-Jun-19 21:49:37
 Format:
 Wrapper:
 Frame rate: ndf25
 Duration: 00:00:46:21
 In-timecode: 10:00:00:00
 Video track: 16-9 tracks
 Audio tracks: 8
 Production metadata:
 Title: Orbit
 Material type: Presentation
 Series:
 Production number:
 Warning:
 User fields:
 User field 1:
 User field 2:
 User field 3:
 User field 4:

20200116_playlist (Modified) Event  Material 2020-01-16 13:51:40:06

Update the comment

Edit a playlist item

We have seen how selecting a clip in the playlist updates the **Material** panel with that clip's attributes and metadata.

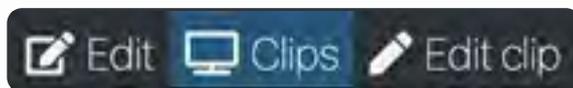
The screenshot displays the Cosmos software interface. At the top, there are navigation buttons: Load, Save, Follow, and Enable. The main area is divided into two panels. The left panel, titled 'Channel 1', shows a playlist with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The selected clip is 'EXOMARS: Ready for Science' with a duration of 00:03:18:18. The right panel, titled 'Material', shows the details for the selected clip, including Material ID (20190306_132315-ESAV0002), File Name (20190306_132315-ESAV0002...), Technical metadata (Captured: 13-Jun-19 21:51:18, Format: mxf25, Wrapper: , Frame rate: ndf25, Duration: 00:03:18:18, In-timecode: 00:00:00:00, Video track: 16-0 tracks, Audio tracks: 8), Production metadata (Title: EXOMARS: Ready for Science, Material type: Programme, Series: ESA, Production number: , Warning:), and User fields (User field 1, User field 2, User field 3, User field 4). At the bottom, there are buttons for Edit, Clips, and Edit clip, and a timestamp of 2020-01-16 13:57:14.03.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress 00:01:25:11		T	internal	20190306_141445-ES/	

Material	Title	Material type	Duration	Series	Production number	Wa
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:06:18	ESA		
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and I...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cametosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			

Material ID	File Name	Technical metadata	Production metadata	User fields
20190306_132315-ESAV0002	20190306_132315-ESAV0002...	Captured: 13-Jun-19 21:51:18	Title: EXOMARS: Ready for Science	User field 1
		Format: mxf25	Material type: Programme	User field 2
		Wrapper:	Series: ESA	User field 3
		Frame rate: ndf25	Production number:	User field 4
		Duration: 00:03:18:18	Warning:	
		In-timecode: 00:00:00:00		
		Video track: 16-0 tracks		
		Audio tracks: 8		

EXOMARS clip selected in the playlist and corresponding details for the clip displayed in the **Material** panel



Also, we have used the **Clips** panel to select a clip and then add it to our playlist. Other options include Edit and Edit clip.

Using Edit

Any changes made in this panel will modify the clips attributes in the playlist. We can change duration, the in-timecode start point and the transition to the next clip.

The screenshot displays the Cosmos software interface. At the top, there are navigation buttons (Load, Save, Follow) and a status bar with 'Enable' and the Cosmos logo. Below this is a table listing events in a playlist:

Channel	Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
Channel 1	16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESA	🟢
Channel 2	16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	🟢
	16-Jan-20 11:35:53:12		TGAS & Gala DR2	00:00:52:05	T	internal	20190306_145656-ESA	🟢
	16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESA	🟢

Below the table is a detailed configuration panel for 'Channel 1' for the event 'EXOMARS: Ready for Science'. The panel includes sections for:

- Event:** Title (EXOMARS: Ready for Science), Material ID (20190306_132315-ESA0002), Source (internal).
- Timing:** Start mode (Follow On), Start date (16/01/2020), Start time (11:31:47:23), In-timecode (00:00:00:00), Duration (00:03:18:18).
- Transition:** Transition type (Cut), Transition duration, Lead duration, Lag duration.
- User Fields:** Secondary events (Add logo, Add graphic, Add SCTE-35).

On the right side, there is a metadata panel showing technical and production details for the selected clip, including File Name, Captured date, Format, Wrapper, Frame rate, Duration, In-timecode, Video tracks, Audio tracks, and Production metadata (Title, Material type, Programme, Series, Production number, Warning, User fields).

Event

This close-up shows the 'Event' configuration section. It includes a title input field containing 'EXOMARS: Ready for Science', a Material ID input field with '20190306_132315-ESA0002', and a Source dropdown menu set to 'internal'. There are also buttons for 'Update' and 'Add after' for the selected event.

Changes to the Title here are only applied to the entry in the playlist. It will **not** modify the original clip name.

Timing

This close-up shows the 'Timing' configuration section. It includes a Start mode dropdown menu set to 'Follow On', a Start date input field with '16/01/2020', a Start time input field with '11:31:47:23', an In-timecode input field with '00:00:00:00', and a Duration input field with '00:03:18:18'.

The **Start mode** setting defaults to **Follow On**. Other options include Fixed, Manual and Join in Progress. More details of these settings can be found [here](#). Changes to the **In-timecode** will modify the point at which the clip starts and **Duration** determines how long the clip will play.

Transition

This close-up shows the 'Transition' configuration section. It includes a Transition type dropdown menu set to 'Cut', and three input fields for Transition duration, Lead duration, and Lag duration, all currently set to '0'.

The default **Transition type** is set to Cut. Fade then take, Take then fade, Mix and V-Fade are the other options available.

The **Transition duration** should be entered in frames. Channel 1 has a framerate of 25 frames a second. This setting can be found in the Configuration Tool.

User Fields

The User Fields allow for the extension of the Cosmos application. More details of User Fields can be found in the [Cosmos in Detail](#) section.

Secondary event

Secondary events Add logo Add graphic Add SCTE-35

To add a logo, graphic or SCTE-35 event just click on the corresponding button. More details of the Secondary event panel can be found in [Cosmos in Detail](#).

Secondary events Add logo Add graphic Add SCTE-35

Logo

Description Play from Offset
 From start of event 00:00:00:00
 Logo name On

Secondary events Add logo Add graphic Add SCTE-35

Graphic

Description Play from Offset
 From start of event 00:00:00:00
 Graphic name Layer Duration
 Select... 1 00:00:00:00
 Trigger graphic animation offset
 00:00:00:00

Secondary events Add logo Add graphic Add SCTE-35

SCTE

Description Play from Offset
 From start of event 00:00:00:00
 Message Splice ID Programme ID Duration Auto return
 Splice start -1 -1 00:00:00:00

If you have added an event in error just click on  to delete it.

Using Edit clip

Any changes made in this panel will change the clips attributes. Modifications here will only appear in the list of clips.

The screenshot shows the Cosmos interface with a list of clips and a metadata panel on the right. The clip list is as follows:

Material ID	Title	Material type	Duration	Series	Production number	Warning
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132832-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and I...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderful...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cometosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			

The metadata panel on the right shows details for the selected clip (Material ID: 20190306_132115-ESAV0001):

- File Name: 20190306_132115-ESAV0001...
- Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format:
 - Wrapper:
 - Frame rate: ndf25
 - Duration: 00:00:46:21
 - In-timecode: 10:00:00:00
 - Video track: 163 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: Orbit
 - Material type: Presentation
 - Series:
 - Production number:
 - Warning:
- User fields:
 - User field 1:
 - User field 2:
 - User field 3:
 - User field 4:

Select the clip

The screenshot shows the Production Metadata form for clip 20190306_132115-ESAV0001. The form fields are:

- Title: Orbit
- Material type: Presentation
- Series:
- Production number:
- Warning:

Make a change to the title of the clip.

The screenshot shows the Production Metadata form for clip 20190306_132115-ESAV0001 with the title changed to "Orbit change to title". The form fields are:

- Title: Orbit change to title
- Material type: Presentation
- Series:
- Production number:
- Warning:

When you have made your changes you must click the **Save** button.

The screenshot displays the Cosmos software interface. At the top, there are navigation buttons (Load, Follow, Save) and a status bar with 'Enable' and the Cosmos logo. The main area is divided into three sections:

- Channel 1 Playlist:** A table with columns: Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315...	🟢
16-Jan-20 11:35:08:16		Orbit	00:00:46:21	T	internal	20190306_132115...	🟢
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656...	🟢
16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445...	🟢
- Channel 1 Metadata:** A table with columns: Material, Title, Material type, Duration, Series, and Production number.

Material	Title	Material type	Duration	Series	Production number
20190306_132115-ESAV0...	Orbit change to title	Presentation	00:00:46:21		
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA	
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA	
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons	
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA	
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA	
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA	
A Duck's Life		Unknown	00:01:44:25		
AladdinAndTheWonderful...		Unknown	00:07:53:09		
Autumn Lakes Master XDC...		Commercial	00:05:41:21		
Big Cat Sanctuary		Unknown	00:02:24:09		
cametosupper	Test title	Presentation	00:08:06:20		
North-Korea		Promotion	00:32:43:09		
- Video Player:** Shows a video of a planet with a ring system. Controls include Play, Pause, -1, +1, and a time display of 10:00:00:00.
- Metadata Panel:** A detailed view of the selected item's metadata, including:
 - Material ID: 20190306_132115-ESAV0001
 - File Name: 20190306_132115-ESAV0001...
 - Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format: [empty]
 - Wrapper: [empty]
 - Frame rate: ndf25
 - Duration: 00:00:46:21
 - Tr-code: 10:00:00:00
 - Video track: 16-0 tracks
 - Audio tracks: 8
 - Production metadata:
 - Title: Orbit change to title
 - Material type: Presentation
 - Series: [empty]
 - Production number: [empty]
 - Warning: [empty]
 - User fields:
 - User field 1: [empty]
 - User field 2: [empty]
 - User field 3: [empty]
 - User field 4: [empty]

At the bottom, there are buttons for 'Edit', 'Clips', and 'Edit clip', along with a timestamp '2020-01-28 11:54:31:12'.

Change to the Orbit title appear in the Clips panel only

Next we will look in more detail at the Edit panel and how to amend the duration and transition type of an item in a playlist.

Edit an event duration and transition type

Returning to the Edit clips panel we are now going to modify the duration of the clips.

However, sometimes the Edit, Clips and Edit clip panels are not displayed.

The screenshot displays the Cosmos software interface. On the left, a table lists events with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The right side features a video player with a play/pause button and a time display. Below the player is a metadata panel for the selected clip, showing details such as Material ID, File Name, Technical metadata (Captured, Format, Wrapper, Frame rate), Duration, In-timecode, Video tracks, Audio tracks, Production metadata (Title, Material type, Series, Production number, Warning), and User fields.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47.23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315...	
16-Jan-20 11:35:06.18		Orbit	00:00:46:21	T	internal	20190306_132115...	
16-Jan-20 11:35:53.12		TGAS & Gala DR2	00:00:52:05	T	internal	20190306_145656...	
16-Jan-20 11:36:45.17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445...	

Material ID: 20190306_132115-ESAV0001
 File Name: 20190306_132115-ESAV0001...
 Technical metadata
 Captured: 13-Jun-18 21:49:37
 Format:
 Wrapper:
 Frame rate: ndf25
 Duration: 00:00:46:21
 In-timecode: 10:00:00:00
 Video track: 16-9 tracks
 Audio tracks: 8
 Production metadata
 Title: Orbit
 Material type: Presentation
 Series:
 Production number:
 Warning:
 User fields
 User field 1:
 User field 2:
 User field 3:
 User field 4:

To show any one of the panels click on its button at the bottom of the screen.



The screenshot shows the Cosmos user interface with the 'Edit' panel selected. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315...	
16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-...	
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656...	
16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445...	

The 'Edit' panel for the selected event shows the following details:

- Title:** TGAS & Gaia DR2
- Material ID:** 20190306_145656-ESAV0007
- Source:** internal
- Timing:** Start date: 11-20-19, Start time: 00:00:00, In-timecode: 00:00:00, Duration: 00:00:52:05
- Transition:** Transition type: Cut, Transition duration: 0, Lead duration: 0, Lag duration: 0
- Secondary events:** Add logo, Add graphic, Add SCTE-35

Selecting Edit

Change the duration of a clip

With the Edit panel shown, select the playlist item and the Edit panel will display the attributes of the selected playlist event.

The screenshot shows the Cosmos user interface with the 'Edit' panel selected. The playlist table is as follows:

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ES/	

The 'Edit' panel for the selected event shows the following details:

- Title:** EXOMARS: Ready for Science
- Material ID:** 20190306_132315-ESAV0002
- Source:** internal
- Timing:** Start date: 11-21-19, Start time: 00:03:18:18, In-timecode: 00:00:00, Duration: 00:03:18:18
- Transition:** Transition type: Cut, Transition duration: 0, Lead duration: 0, Lag duration: 0
- Secondary events:** Add logo, Add graphic, Add SCTE-35

The EXOMARS playlist event selected

Channel 1 [Update 'EXOMARS: Ready for Science'](#) [+ Add after 'EXOMARS: Ready for Science'](#)

Event

Title: EXOMARS: Ready for Science Material ID: 20190306_132315-ESAV0002 Source: internal

Timing

Start mode: Follow On Start date: 16/01/2020 Start time: 11:31:47:23 In-timecode: 00:00:00:00 Duration: 00:03:18:18

Transition

Transition type: Cut Transition duration: 0 Lead duration: 0 Lag duration: 0

Details of the EXOMARS playlist event

Modify the Timing duration to 10 seconds - 00:00:10:00.

Timing

Start mode: Follow On Start date: 16/01/2020 Start time: 11:31:47:23 In-timecode: 00:00:00:00 Duration: 00:00:10:00

Once you have made the change you must update the event in the playlist. Click on

[Update 'EXOMARS: Ready for Science'](#)

Channel 1 [Update 'EXOMARS: Ready for Science'](#) [+ Add after 'EXOMARS: Ready for Science'](#)

Event

Title: EXOMARS: Ready for Science Material ID: 20190306_132315-ESAV0002 Source: internal

Timing

Start mode: Follow On Start date: 16/01/2020 Start time: 11:31:47:23 In-timecode: 00:00:00:00 Duration: 00:00:10:00

Transition

Transition type: Cut Transition duration: 0 Lead duration: 0 Lag duration: 0

The changes are immediately reflected in the display of the EXOMARS item in the playlist.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	▶
16-Jan-20 11:32:07:23		Orbit	00:00:10:00	T	internal	20190306_132115-ESA	▶
16-Jan-20 11:32:17:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES.	▶
16-Jan-20 11:32:27:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	▶

As you can see, the duration of all the clips have been shorted to 10 seconds.

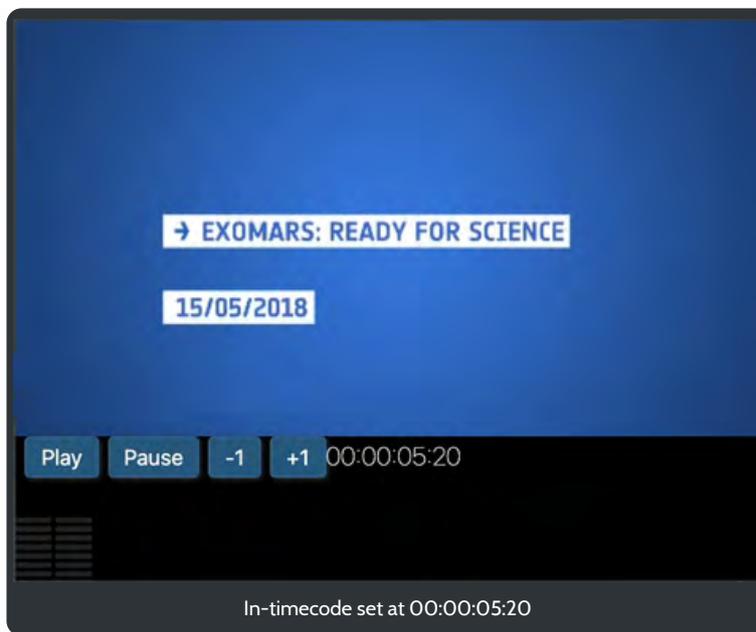
Change the In-timecode

Changing the In-timecode will offset the clips starting point. Here the clip is set to start playing at 5 seconds and 20 frames - 00:00:05:20.

Timing

Start mode: Follow On Start date: 16/01/2020 Start time: 11:31:47:23 In-timecode: 00:00:05:20 Duration: 00:00:10:00

Click on [Update 'EXOMARS: Ready for Science'](#) to update the event in the playlist. As this is the first clip in the playlist and a In-timecode is set then this will be the first frame that is displayed on payout.



Transitions

Transitions are always applied to the start of the clip. As the **EXOMARS** clip is the first item in the playlist the transition between two clips will not be clearly seen. Therefore, we will select the next item in the playlist - **Orbit** and apply a transition here.

Applying a Mix transition to the start of the **Orbit** clip will demonstrate the transition at the end of the **EXOMARS** clip and into the **Orbit** clip.

Select the Mix transition type

When the transition type is set to Mix then the duration of the transition can be entered. This is the total number of frames that you would like to apply the transition too.

Transition

 Transition type: Mix

 Transition duration: 50

 Lead duration: 0

 Lag duration: 0

As before, once you have made the change you must update the event in the playlist. Click on [Update 'Orbit'](#)

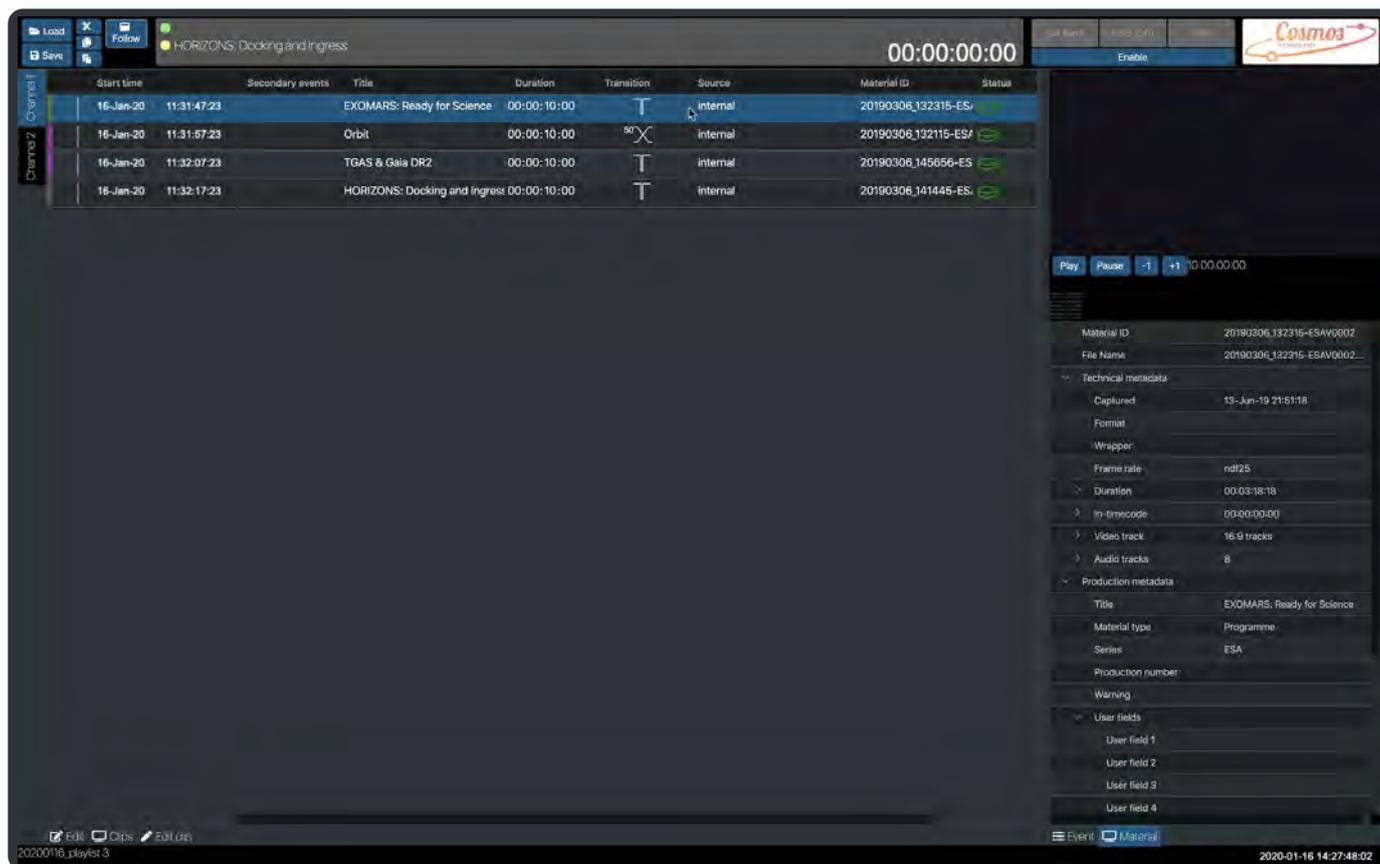
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315...	
16-Jan-20 11:31:57:23		Orbit change to playlist title	00:00:10:00	⁵⁰ X	internal	20190306_132115-...	
16-Jan-20 11:32:17:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656...	
16-Jan-20 11:32:27:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445...	

The transition column for the Orbit event shows the transition type and number of frames

Before moving on to using Live Controls this would be a good opportunity to save your work. You can save the playlist over any other existing playlist by calling it the same name. Alternatively, type a new name for your playlist.

Using Live controls

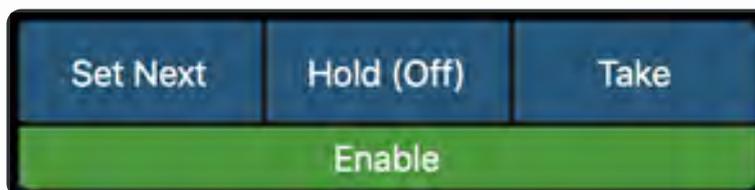
We have just looked at how to edit each of the four clips for duration and transition type.



Now we will take the playlist and use the Live Controls to play out the clips.

First, click on **Enable** to enable the Live controls panel.

The Enable button will now turn green.



It is very simple to start playback of any item in the playlist.

Select the item that you want to play and then click on the **Set Next**. The selected row's background will be highlighted yellow.

The EXOMARS item selected and Set Next for playlist

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🟢
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50 X	internal	20190306_132115-ES/	🟡
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🟢
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	🟢

Event details panel:

- Row type: primary
- Scheduled start: 16-Jan-20 11:31:47:23
- Start mode: followOn
- Title: EXOMARS: Ready for Science
- Primary source: internal
- Material ID: 20190306_132315-ESAV0002
- Duration: 00:00:10:00
- In-timecode: 00:00:05:20
- Transition: 0
- Event type:
- User fields:
- Material type: Programme

The playlist is now ready for live playout. This is achieved by selecting Take.

The playlist item selected in the previous step is being played out and appears highlighted green. The next item in the playlist now has a yellow background.

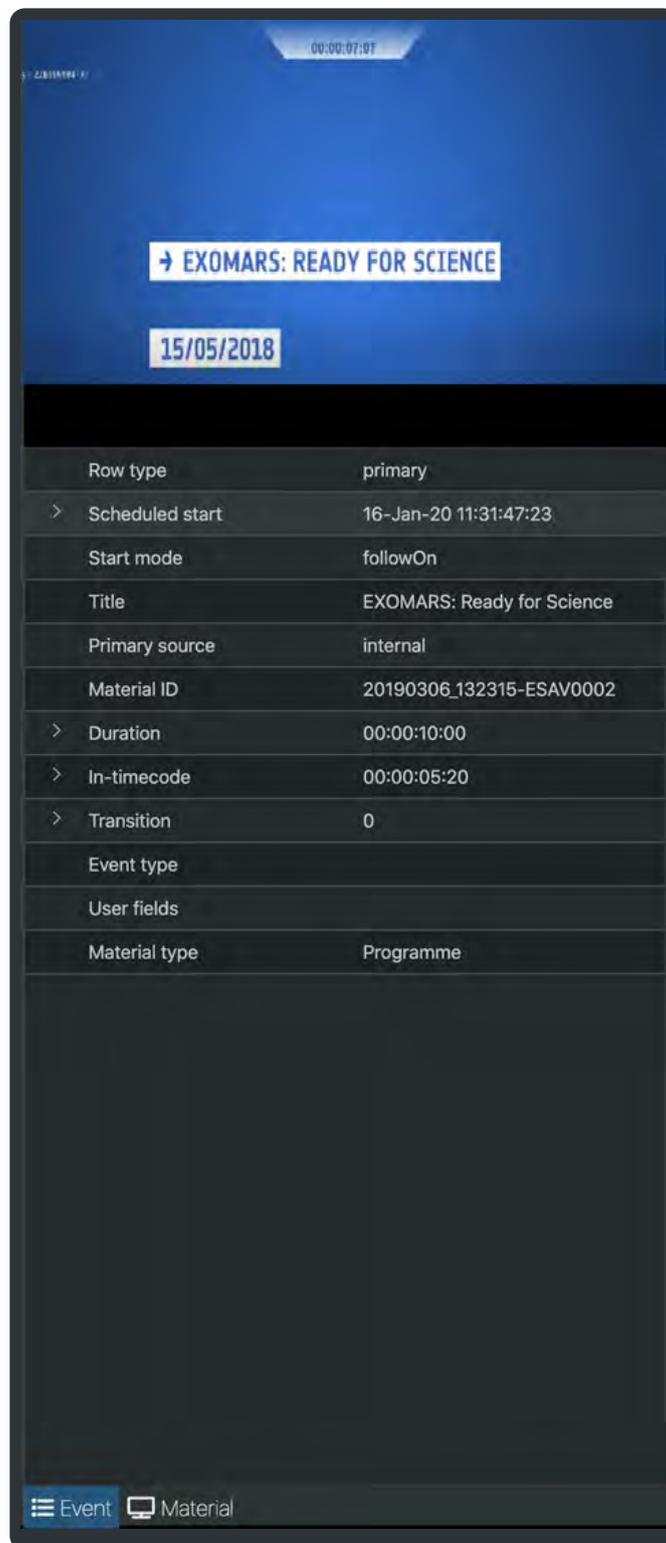
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🟢
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50 X	internal	20190306_132115-ES/	🟡
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🟢
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	🟢

At the top of the Cosmos window is the title of both the currently playing clip and the next clip.

EXOMARS: Ready for Science
Orbit

00:00:26:03

The video preview is now showing the live playout. Underneath the video are details of the playing clip in the Event panel. Note the video transport controls have been removed when the Live playout is in progress.



At the end of the EXOMARS clip the next clip - Orbit, is presented. In this case the transition, a 50 frame mix, is shown between the clips. The Orbit clip, is playing and is highlighted green. The EXOMARS clip is now finished and its background colour has reverted to a normal state. The next clip to be shown after the Orbit clip is the TGAS clip, highlighted yellow.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🟢
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50X	internal	20190306_132115-ESA	🟢
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🟡
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	🟢

The changes in the playlist state as it plays subsequent clips.

TGAS & Gaia DR2
 ● HORIZONS: Docking and Ingress: 00:00:32:00

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🔍
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50° X	internal	20190306_132115-ES/	🔍
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🔍
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES	🔍

HORIZONS: Docking and Ingress
 ● 00:00:25:20

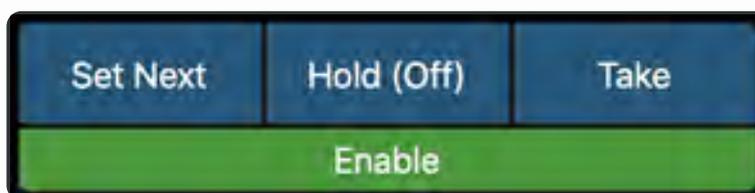
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🔍
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50° X	internal	20190306_132115-ES/	🔍
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🔍
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES	🔍

The playlist ends playback after the completion of the last clip.

● HORIZONS: Docking and Ingress: 00:00:19:11

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🔍
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50° X	internal	20190306_132115-ES/	🔍
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🔍
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES	🔍

The Live Controls panel contains one other button, Hold(Off). Selecting this will hold the playback on at the end of the current playing clip.



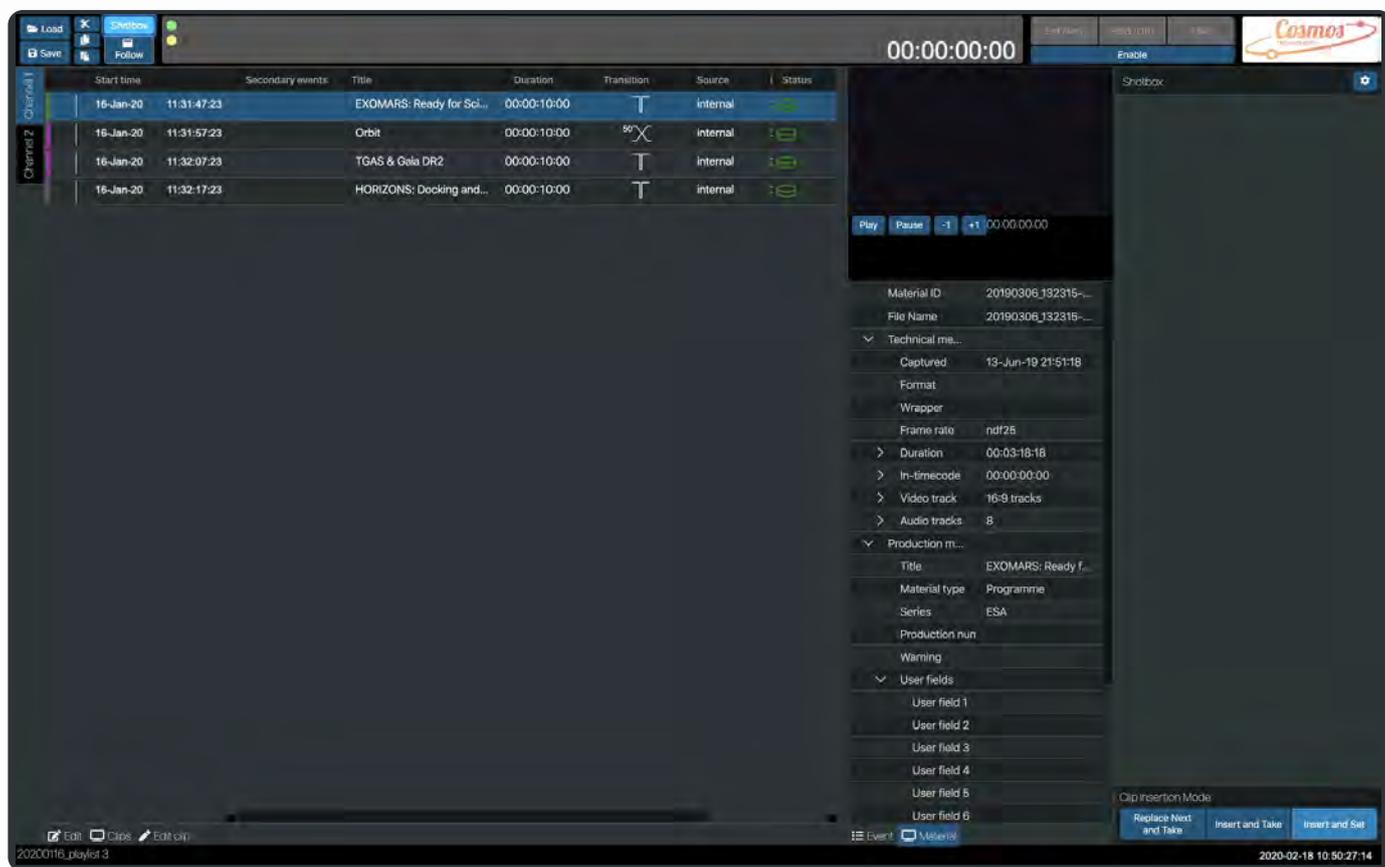
Toggle the button between Hold(Off) and Hold(Hold).

The next section looks in detail at the functionality of the Cosmos application.

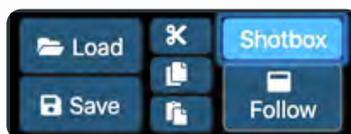
Shotbox

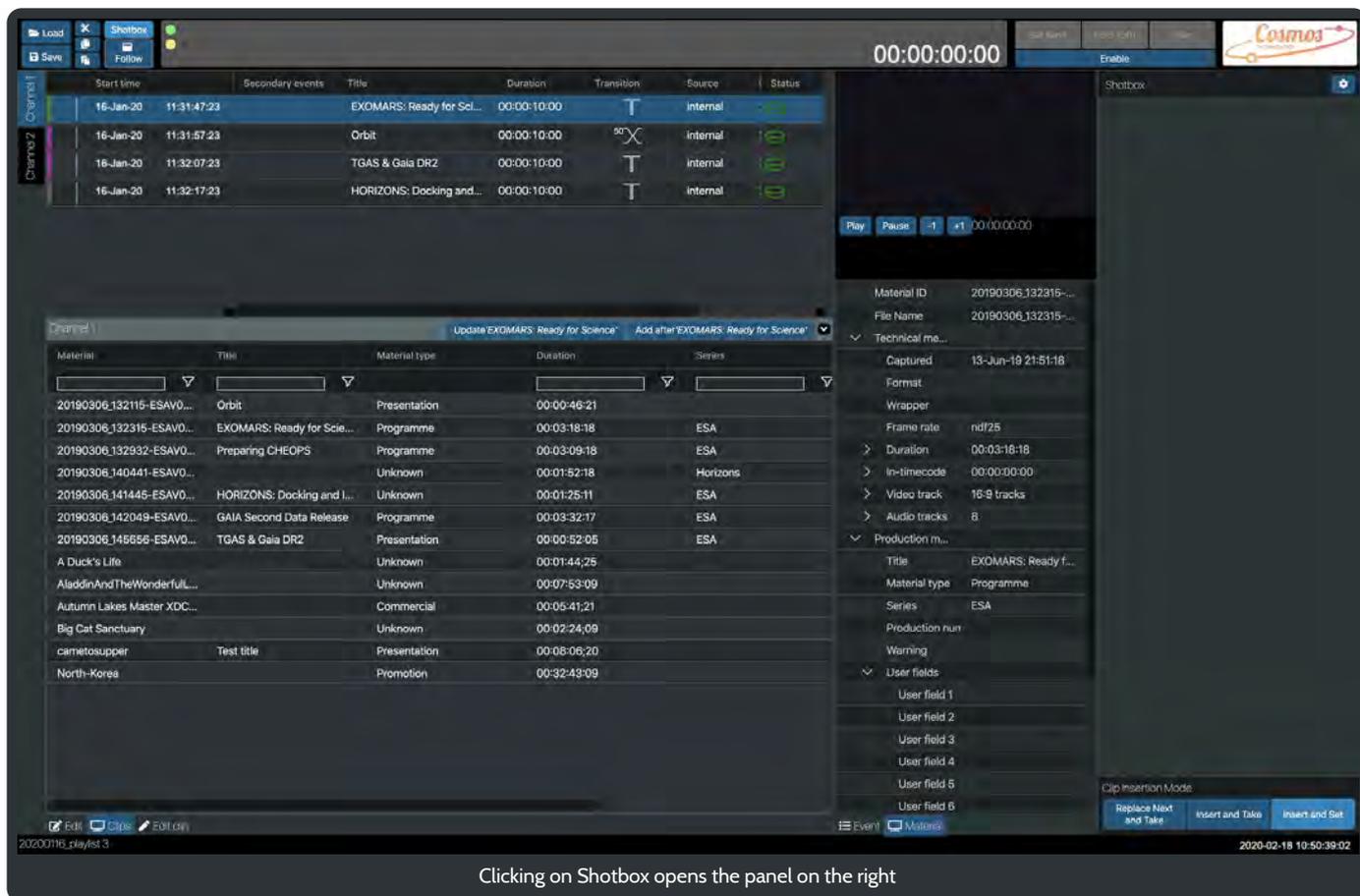
Is an ultra quick way of allocating materials into a playlist and taking control of live playout.

Any clip can be assigned into the Shotbox panel where they are represented as a button. When clicking on any of these buttons the corresponding clip is sent to the live playout with options for **Replace Next and Take**, **Insert and Take**, **Insert and Set**.



The Shotbox panel can be toggled on and off by clicking on **Shotbox** in the Save and Load panel.

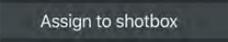




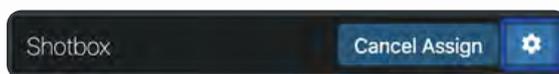
Clicking on Shotbox opens the panel on the right

To assign a clip to the Shotbox you will need to open the Clips panel. Click on  .

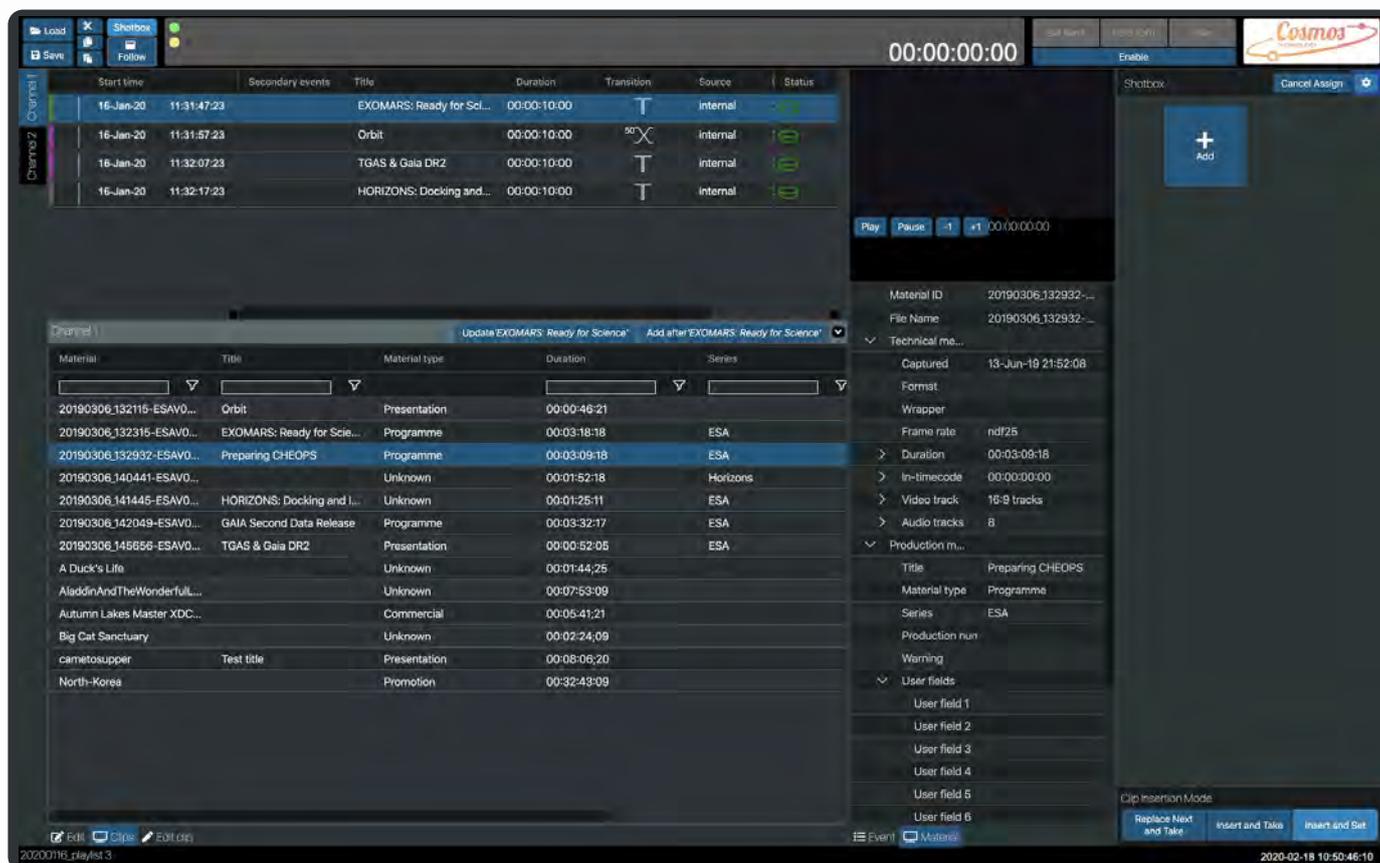


Then right click on any clip to display  . Select the Assign to shotbox option. The Preparing CHEOPS clip is assigned and ready to be added to the Shotbox.

Once a clip has been assigned the **Cancel Assign** will appear in the Shotbox menu. If you have selected the wrong clip then click on **Cancel Assign** to remove the assigned clip.



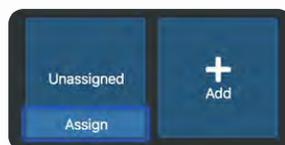
To the right of the **Cancel Assign** button is . Click on this to open the Shotbox configuration tools.



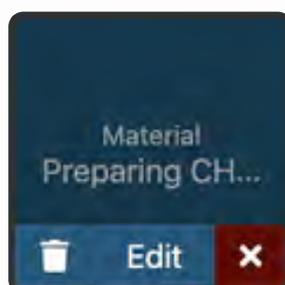
An **Add** button is displayed.



Clicking on **Add** will add an unassigned button to the panel.



At the bottom of this newly created Shotbox button is **Assign**. Click on **Assign** will link the currently selected clip to this button.



The **Preparing CHEOPS** clip is assigned as the Material for the Shotbox button.

Now we add some more clips. First the **HORIZONS: Docking** clip.

The screenshot shows the Cosmos software interface. The main window displays a list of clips with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The clip "HORIZONS: Docking and..." is selected. The right-hand panel shows the Shotbox button with the text "Material: Preparing CH..." and an "Add" button. Below the Shotbox button, the clip's metadata is displayed, including Material ID, File Name, and various technical and production details.

The **HORIZONS: Docking** clip is assigned

The screenshot shows the Cosmos software interface. The main window displays a list of clips. The clip "HORIZONS: Docking and..." is selected. The right-hand panel shows the Shotbox button with the text "Material: Preparing CH..." and an "Add" button. Below the Shotbox button, the clip's metadata is displayed, including Material ID, File Name, and various technical and production details.

Click on **Add** to create a new Shotbox button

The screenshot shows the Cosmos software interface. At the top, there is a toolbar with buttons for Load, Save, Shotbox, and Follow. The main area is divided into several sections:

- Channel 1:** A table listing video materials with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The selected material is "HORIZONS: Docking and..." with a duration of 00:01:25:11.
- Channel 2:** A similar table listing other materials, with "HORIZONS: Docking and..." also selected.
- Shotbox:** A panel on the right containing buttons for "Material Preparing CH...", "Unassigned", "Assign", and "Add".
- Properties Panel:** A panel on the right showing technical details for the selected material, including Material ID, File Name, and various technical specifications.

The "Add" button in the Shotbox is highlighted, indicating it has been added to the interface.

A Shotbox button is added

This screenshot shows the same Cosmos software interface as the previous one, but with the "Add" button in the Shotbox panel now assigned to the selected material. The "Assign" button in the Shotbox panel is highlighted, indicating the assignment process.

The "Add" button in the Shotbox panel now displays the material name "HORIZONS: Docking and..." and a plus sign, indicating it is now assigned to that clip.

The HORIZONS: Docking clip is assigned to the button by clicking on Assign

The screenshot displays the main interface of the Cosmos software. At the top, there are navigation icons (Load, Save, Shotbox, Follow) and a timer showing 00:00:00.00. The central area features a playlist table with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The selected item is 'HORIZONS: Docking and...' with a duration of 00:00:10:00. Below the playlist is a search and filter section for materials. The right-hand pane shows the details for the selected material, including its ID, file name, and various technical and production metadata. A 'Shotbox' on the far right contains a button labeled 'Material HORIZONS: Docking...'.

The button showing the assigned Material - HORIZONS: Docking

This screenshot shows the same Cosmos software interface, but with a different material selected. The playlist table now highlights 'TGAS & Gaia DR2' with a duration of 00:00:52:05. The right-hand pane displays the details for this material, including 'Material ID: 20190306_145656-...' and 'File Name: 20190306_145656-...'. The 'Shotbox' button is now labeled 'Material TGAS & Gaia DR2...'. A tooltip 'Assign to shotbox' is visible over the selected material in the playlist.

The TGAS and Gaia DR2 clip is assigned

The screenshot shows the Cosmos interface with a playlist table and a shotbox panel. The playlist table has columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The shotbox panel on the right has buttons for 'Material Preparing CH...', 'Material HORIZONS...', and an 'Add' button. The 'Add' button is highlighted with a red box.

Start time	Secondary events	Title	Duration	Transition	Source	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50%	internal	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	
16-Jan-20 11:32:17:23		HORIZONS: Docking and...	00:00:10:00	T	internal	

Click on Add to create a new Shotbox button

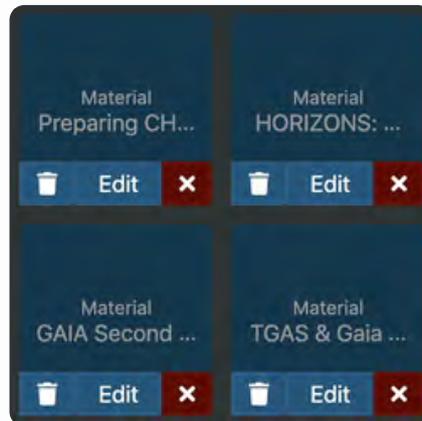
The screenshot shows the Cosmos interface with a playlist table and a shotbox panel. The playlist table is identical to the previous screenshot. The shotbox panel on the right now includes an 'Unassigned' button and an 'Add' button. The 'Add' button is highlighted with a red box.

Material	Title	Material type	Duration	Series
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21	
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA
20190306_146656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA
A Duck's Life		Unknown	00:01:44:25	
AladdinAndTheWonderfull...		Unknown	00:07:53:09	
Autumn Lakes Master XDC...		Commercial	00:05:41:21	
Big Cat Sanctuary		Unknown	00:02:24:09	
cametosupper	Test title	Presentation	00:08:06:20	
North-Korea		Promotion	00:32:43:09	

A Shotbox button is added

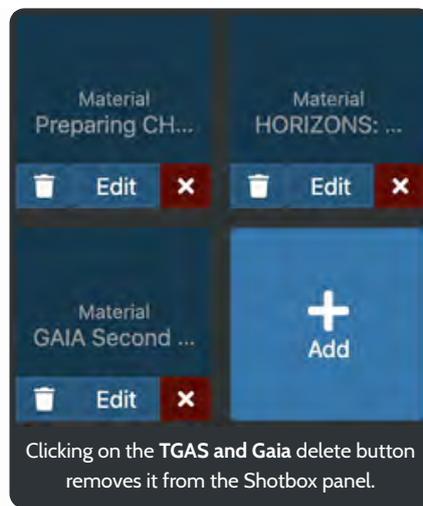
The TGAS and Gaia DR2 clip is assigned to the button by clicking on Assign

Now we have 4 clips assigned to Shotbox buttons.



At the bottom of each button is  Edit 

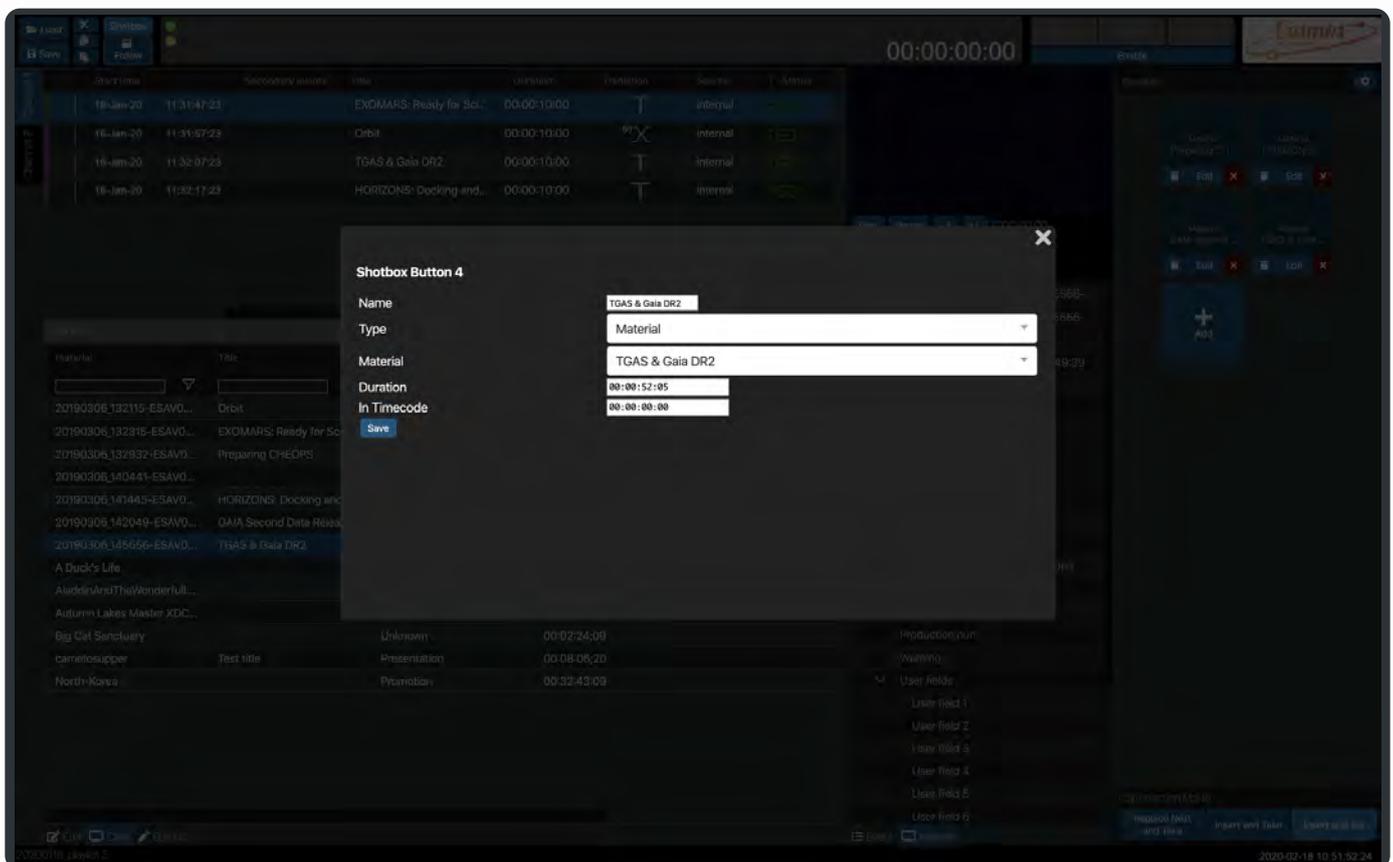
To delete a button from the Shotbox panel click on its 

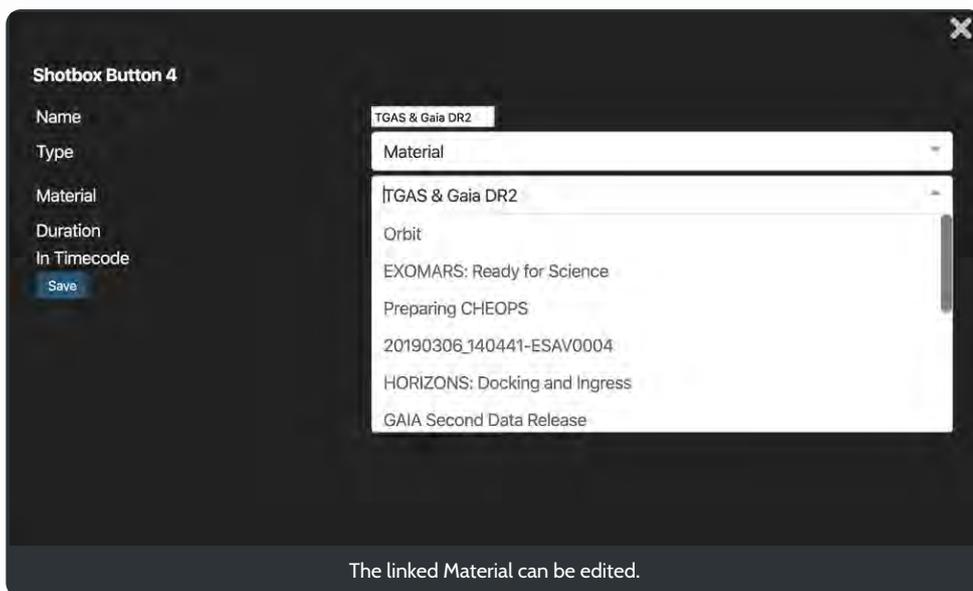
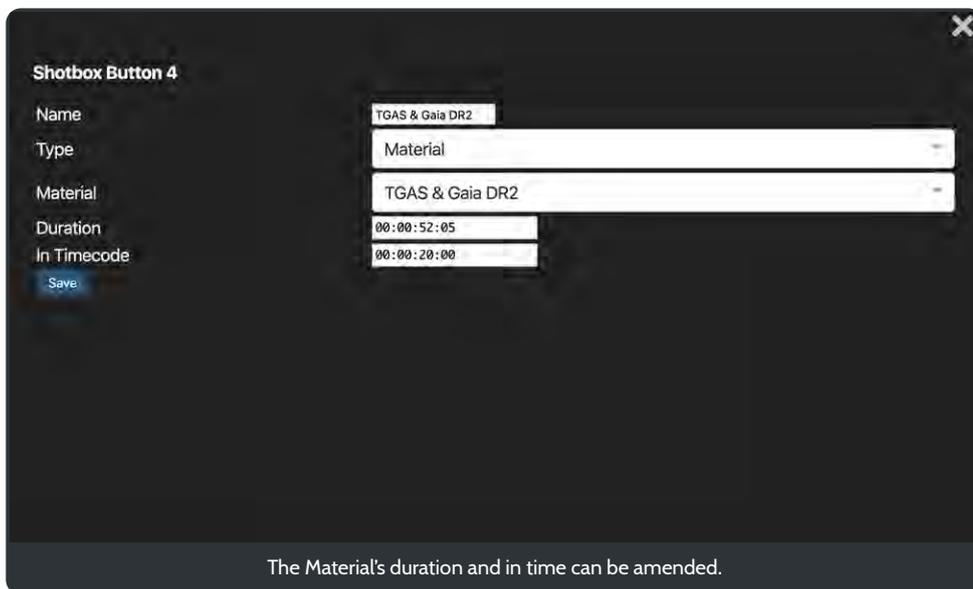


Clicking on the  button will remove the clip from that button. It will leave the button in the Shotbox ready to be assigned another Material.

To assign a material you can right click on a clip in the Clips panel or use the  button

Clicking on **Edit** will open the buttons edit panel.





When you have made your changes you must click the **Save** button.

Shotbox and Live Controls

Once our four Shotbox buttons have been setup we can then use them with the Live Controls.

Enable the Live Controls and **Set Next** the first item in the playlist.

The screenshot shows the Cosmos software interface. At the top, there's a status bar with 'EXOMARS: Ready for Science' and a timer at '00:00:00:00'. Below this is a playlist table with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The first row is highlighted in blue.

Start time	Secondary events	Title	Duration	Transition	Source	Status
16-Jan-20	11:31:47:23	EXOMARS: Ready for Sci...	00:00:10:00	T	internal	🟢
16-Jan-20	11:31:57:23	Orbit	00:00:10:00	50X	internal	🟢
16-Jan-20	11:32:07:23	TGAS & Gaia DR2	00:00:10:00	T	internal	🟢
16-Jan-20	11:32:17:23	HORIZONS: Docking and...	00:00:10:00	T	internal	🟢

Below the playlist is a detailed view of the selected material, showing fields like Material ID, File Name, and various technical and production details. On the right, the Shotbox panel is in configuration mode, with a gear icon at the top right. The Shotbox contains buttons for 'Edit' and 'Add' for different materials.

Set Next the first clip

Select Take to start the playlist playing.

Note, that below, the Shotbox panel is still in its configuration mode. Click on the  to enable the Shotbox buttons.

This screenshot shows the same Cosmos software interface, but the Shotbox panel is now in live mode. The gear icon at the top right of the Shotbox is disabled, and the 'Edit' and 'Add' buttons are now active. The 'Take' button in the top right corner is highlighted in green, indicating it is the selected action.

Now the Shotbox buttons can be used with the Live Controls. They have 3 different modes of operation.

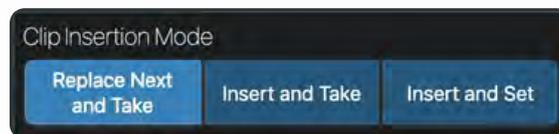
The screenshot displays the Cosmos software interface. At the top, there are control buttons for 'Load', 'Follow', 'Save', 'Shotbox', and 'Orbit'. The main area shows a playlist with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The selected material is 'EXOMARS: Ready for Science' with a duration of 00:00:10:00. Below the playlist, there is a detailed view of the selected material, including its ID, file name, technical information, and production details. The interface also features a 'Clip Insertion Mode' section with buttons for 'Replace Next and Take', 'Insert and Take', and 'Insert and Set'.

Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20 10:53:18.09		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	
16-Jan-20 11:32:07.23		Orbit	00:00:10:00	X	internal	
16-Jan-20 11:32:17.23		TGAS & Gaia DR2	00:00:10:00	T	internal	
16-Jan-20 11:32:27.23		HORIZONS: Docking and...	00:00:10:00	T	internal	

Material	Title	Material type	Duration	Series
20190306.132115-ESAV0...	Orbit	Presentation	00:00:46:21	
20190306.132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA
20190306.132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA
20190306.140441-ESAV0...		Unknown	00:01:52:18	Horizons
20190306.141445-ESAV0...	HORIZONS: Docking and l...	Unknown	00:01:25:11	ESA
20190306.142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA
20190306.145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA
A Duck's Life		Unknown	00:01:44:25	
AladdinAndTheWonderfull...		Unknown	00:07:53:09	
Autumn Lakes Master XDC...		Commercial	00:05:41:21	
Big Cat Sanctuary		Unknown	00:02:24:09	
cametosupper	Test title	Presentation	00:08:08:20	
North-Korea		Promotion	00:32:43:09	

They have 3 functions:

Replace Next and Take



With Replace Next and Take selected in the Clip Insertion Mode

The screenshot shows the Cosmos software interface. At the top, the time is 00:00:30:14. The main playlist table has the following items:

Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20	10:53:18:09	EXOMARS: Ready for Sci...	00:00:10:00	T	internal	⏸
16-Jan-20	11:32:07:23	Orbit	00:00:10:00	⌂	internal	⏸
16-Jan-20	11:32:17:23	TGAS & Gaia DR2	00:00:10:00	T	internal	⏸
16-Jan-20	11:32:27:23	HORIZONS: Docking and...	00:00:10:00	T	internal	⏸

The Shotbox on the right shows four material buttons: 'Material Preparing CHEOPS', 'Material HORIZONS: ...', 'Material GAIA Second...', and 'Material TGAS & Gaia ...'. The 'Material Preparing CHEOPS' button is highlighted.

At the bottom right, the 'Clip Insertion Mode' section includes buttons for 'Replace Next and Take', 'Insert and Take', and 'Insert and Set'.

The currently playing playlist item is **Orbit**. The next item is **TGAS & Gaia**. Clicking on the Shotbox **Material Preparing CHEOPS** will replace **TGAS & Gaia** in the playlist and **Take**.

The screenshot shows the Cosmos software interface. At the top, the time is 00:00:28:12. The main playlist table has the following items:

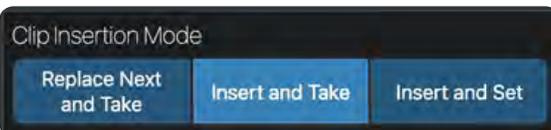
Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20	10:53:18:09	EXOMARS: Ready for Sci...	00:00:10:00	T	internal	⏸
16-Jan-20	11:32:07:23	Orbit	00:00:10:00	⌂	internal	⏸
18-Feb-20	10:53:39:06	Preparing CHEOPS	00:03:09:18	T	internal	⏸
16-Jan-20	11:32:47:23	HORIZONS: Docking and...	00:00:10:00	T	internal	⏸

The Shotbox on the right shows four material buttons: 'Material Preparing CHEOPS', 'Material HORIZONS: ...', 'Material GAIA Second...', and 'Material TGAS & Gaia ...'. The 'Material Preparing CHEOPS' button is highlighted.

At the bottom right, the 'Clip Insertion Mode' section includes buttons for 'Replace Next and Take', 'Insert and Take', and 'Insert and Set'.

The next clip - **TGAS & Gaia** - after the currently playing playlist item **Orbit** has been replaced with the Shotbox Material selected - **Preparing CHEOPS**.

Insert and Take



With Insert and Take selected in the Clip Insertion Mode.

The screenshot displays the Cosmos software interface. At the top, the time is 00:03:32:04. The main playlist area shows a list of items with columns for Start time, Secondary events, Title, Duration, Transition, Source, and Status. The currently playing item is 'Preparing CHEOPS'.

Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20 10:53:18:09		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	
16-Jan-20 11:32:07:23		Orbit	00:00:10:00	50X	internal	
18-Feb-20 10:53:39:06		Preparing CHEOPS	00:03:09:18	T	internal	
16-Jan-20 11:32:47:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	

The Shotbox on the right contains several material thumbnails, including 'Material: Preparing CH...', 'Material: HORIZONS: ...', 'Material: GAIA Second...', and 'Material: TGAS & Gaia...'. The 'GAIA Second Data Release' material is highlighted.

At the bottom right, the 'Clip Insertion Mode' is set to 'Insert and Take'.

The currently playing playlist item is **Preparing CHEOPS**. Click on the Shotbox Material - **GAIA Second Data Release** - the material you want to insert into the playlist and **Take**.

The screenshot displays the Cosmos interface with a playlist and a shotbox. The playlist table is as follows:

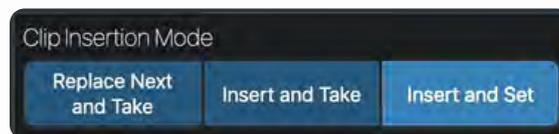
Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20 10:53:18:09		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	⏸
16-Jan-20 11:32:07:23		Orbit	00:00:10:00	50 X	internal	⏸
18-Feb-20 10:53:38:06		Preparing CHEOPS	00:03:09:18	T	internal	⏸
18-Feb-20 10:53:47:22		GAIA Second Data Release	00:03:32:17	T	internal	⏸
16-Jan-20 11:33:07:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	⏸

The shotbox details for the selected material are:

- Material ID: 20190306_132315-...
- File Name: 20190306_132315-...
- Technical ma...
- Captured: 13-Jun-19 21:51:18
- Format
- Wrapper
- Frame rate: ndf25
- Duration: 00:03:18:18
- In-timecode: 00:00:00:00
- Video track: 16-9 tracks
- Audio tracks: 8
- Production m...
- Title: EXOMARS: Ready f...
- Material type: Programme
- Series: ESA
- Production num
- Warning
- User fields: User field 1 to User field 6

The currently playing playlist item **Preparing CHEOPS** has the selected Shotbox Material - **GAIA Second Data Release** inserted after it. The inserted clip is then played.

Insert and Set



With **Insert and Set** selected in the **Clip Insertion Mode**.

The screenshot shows the Cosmos software interface. The top bar displays the time 00:03:56:05 and the 'Set Next' button is highlighted. The main playlist table shows the following items:

Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20	10:53:18:09	EXOMARS: Ready for Sci...	00:00:10:00	T	internal	▶
16-Jan-20	11:32:07:23	Orbit	00:00:10:00	99X	internal	▶
18-Feb-20	10:53:39:06	Preparing CHEOPS	00:03:09:18	T	internal	▶
18-Feb-20	10:53:47:22	GAIA Second Data Release	00:03:32:17	T	internal	▶
16-Jan-20	11:33:07:23	HORIZONS: Docking and...	00:00:10:00	T	internal	▶

The 'Shotbox' on the right shows four material thumbnails. The 'Material - TGAS & Gaia DR2' thumbnail is highlighted, indicating it is the selected item to be inserted into the playlist.

The currently playing playlist item is **GAIA Second Data Release**. Click on the Shotbox Material - **TGAS & Gaia** - the material you want to insert into the playlist and **Set** as the next played item.

The screenshot shows the Cosmos software interface after the insertion. The top bar displays the time 00:03:52:24 and the 'Set Next' button is highlighted. The main playlist table shows the following items:

Start time	Secondary events	Title	Duration	Transition	Source	Status
18-Feb-20	10:53:18:09	EXOMARS: Ready for Sci...	00:00:10:00	T	internal	▶
16-Jan-20	11:32:07:23	Orbit	00:00:10:00	99X	internal	▶
18-Feb-20	10:53:39:06	Preparing CHEOPS	00:03:09:18	T	internal	▶
18-Feb-20	10:53:47:22	GAIA Second Data Release	00:03:32:17	T	internal	▶
18-Feb-20	10:57:20:14	TGAS & Gaia DR2	00:00:52:05	T	internal	▶
16-Jan-20	11:33:17:23	HORIZONS: Docking and...	00:00:10:00	T	internal	▶

The 'Shotbox' on the right shows the 'Material - TGAS & Gaia DR2' thumbnail is now highlighted, indicating it is the selected item to be inserted into the playlist.

The currently playing playlist item **GAIA Second Data Release** has the selected Shotbox Material - **TGAS & Gaia** inserted after it. The inserted clip is then set as the next item to be played.

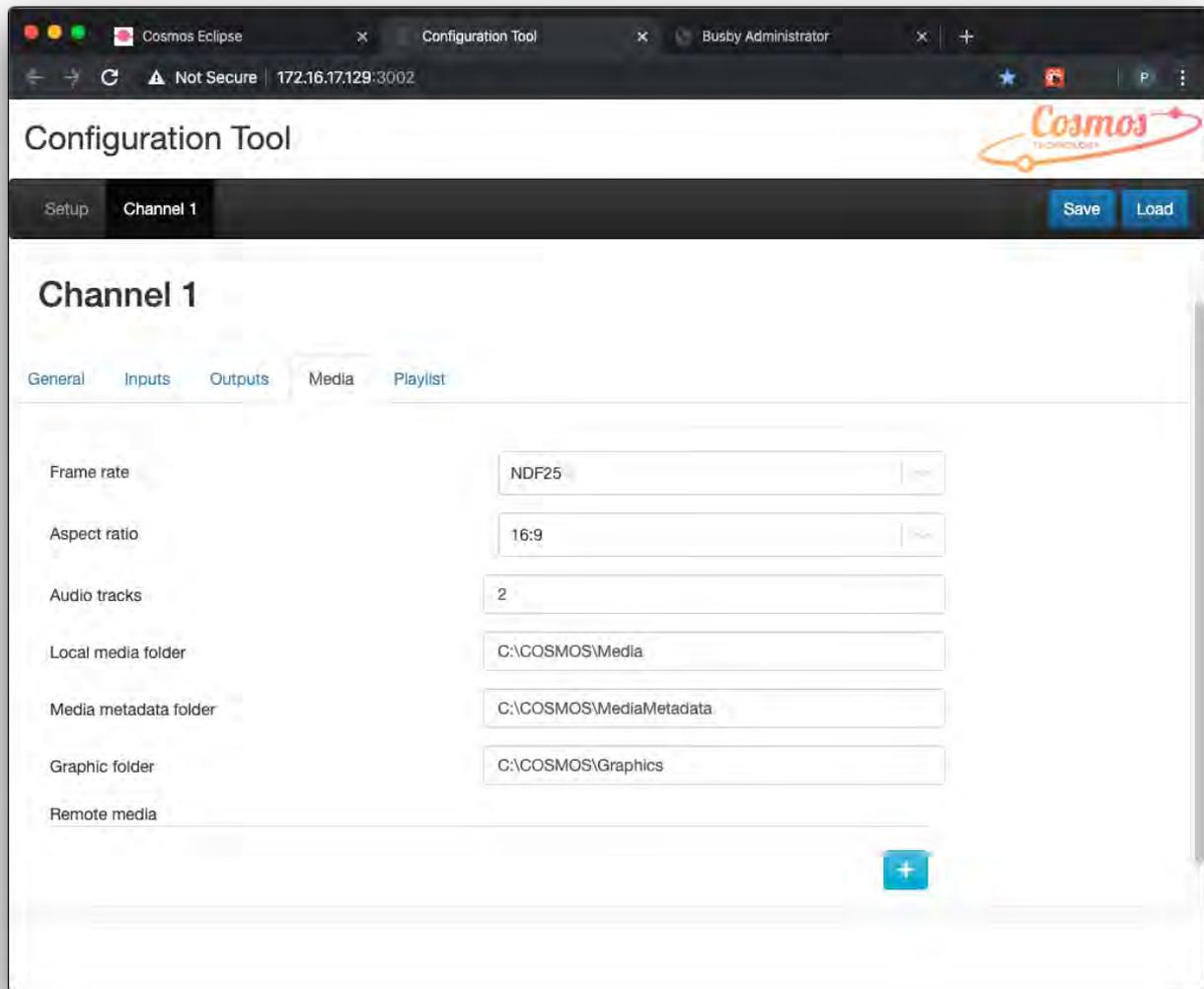
Graphics

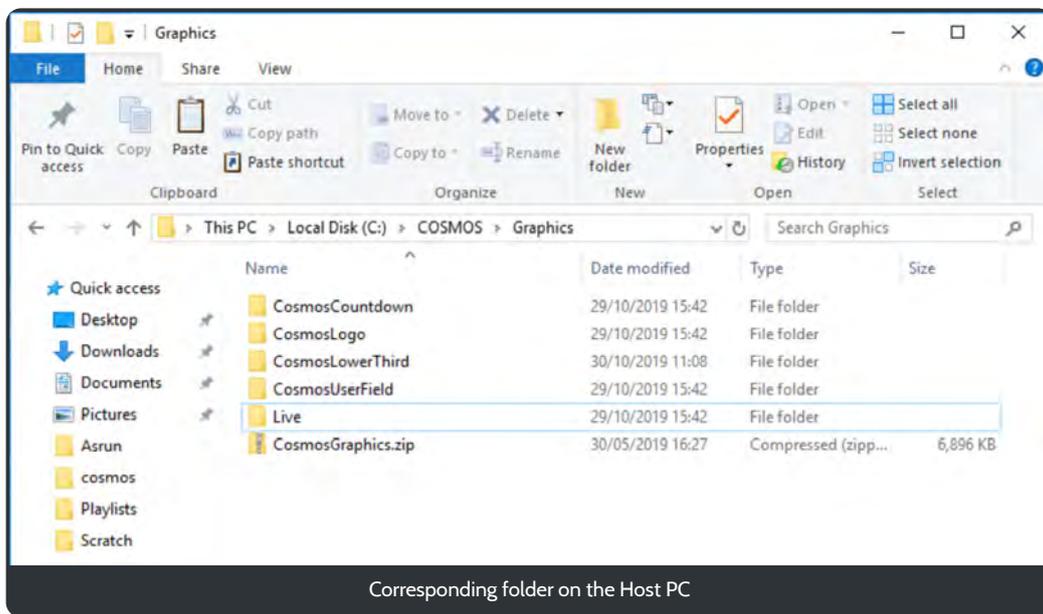
In this section we will look at the use of graphics within Cosmos.

We have used **Adobe Animate**, part of the Adobe Creative Cloud.

<https://www.adobe.com/uk/products/animate.html> (<https://www.adobe.com/uk/products/animate.html>)

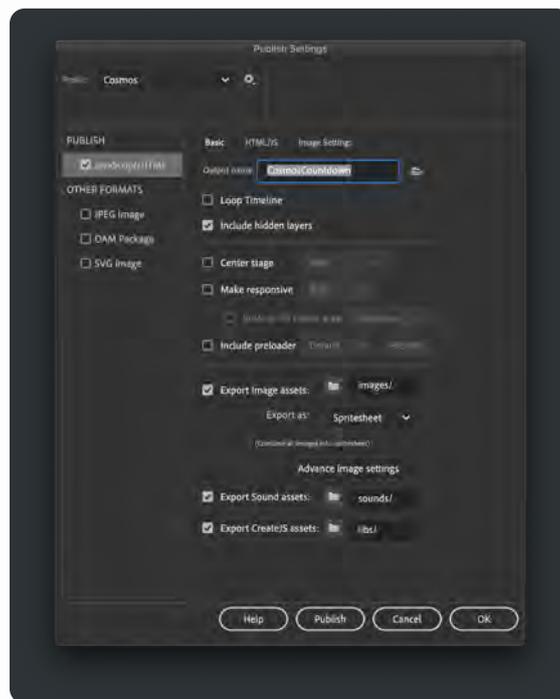
All the graphics templates that you want to use in your Channel need to be added to the corresponding Channels graphics folder. The location of this folder is specified on the **Media** tab in the Channels Configuration Tool.





The GraphicHelp folder contains examples of the .fla files used to create the 5 included templates - CosmosCountdown, CosmosLogo, CosmosLowerThird, CosmosUserField and Live.

Once you have made your changes to the supplied templates please **Publish** the file with the following JavaScript/HTML settings.



Place the newly published files - the .html file, a folder called images and the libs folder, in the graphics folder.

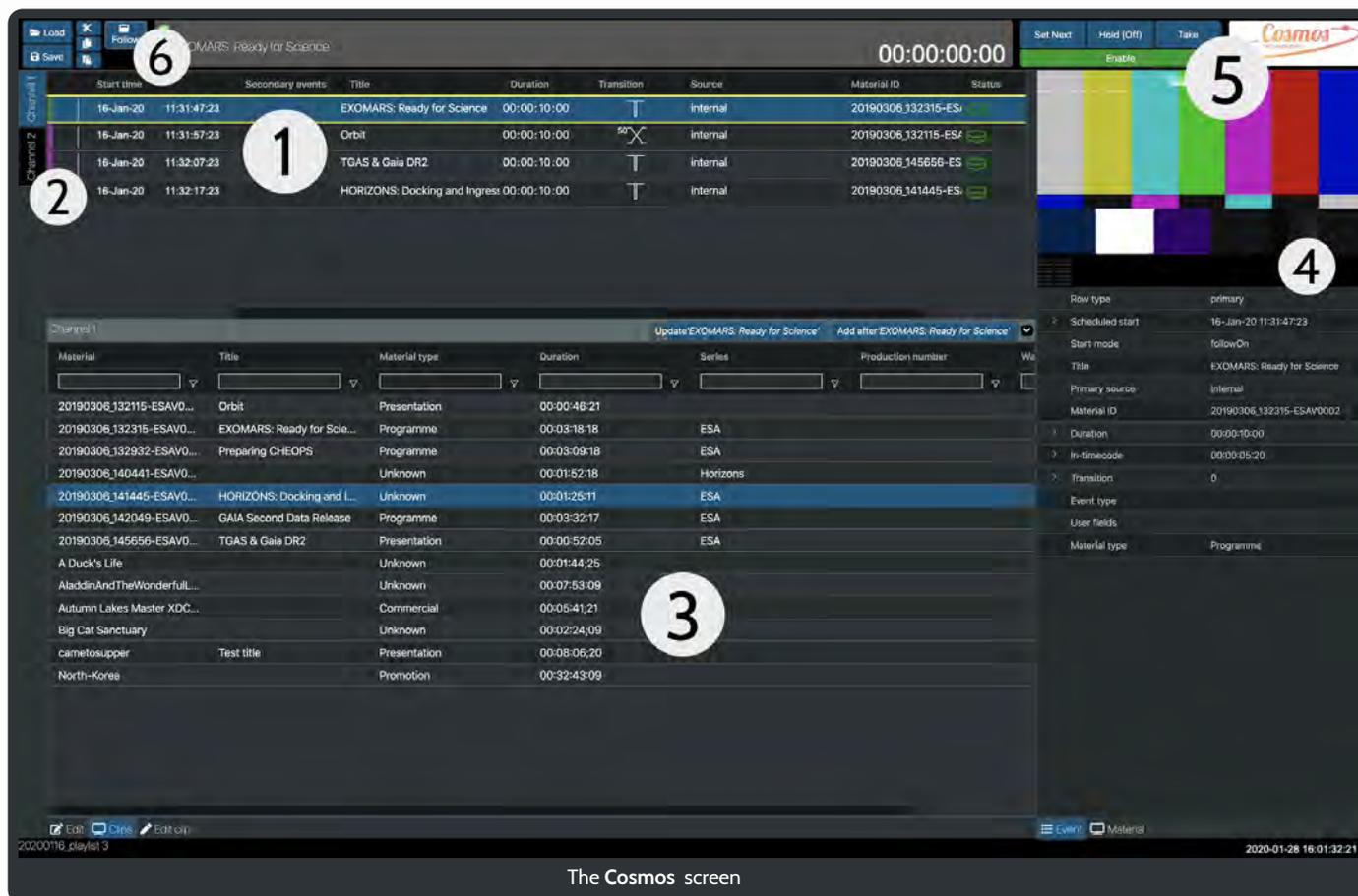
When you come to add a graphic to your clip then select one of the templates we saw earlier.



Further details of how to add graphics to your clips can be found [here](#).

Cosmos details

In this section we take a detailed look at the various parts of Cosmos.

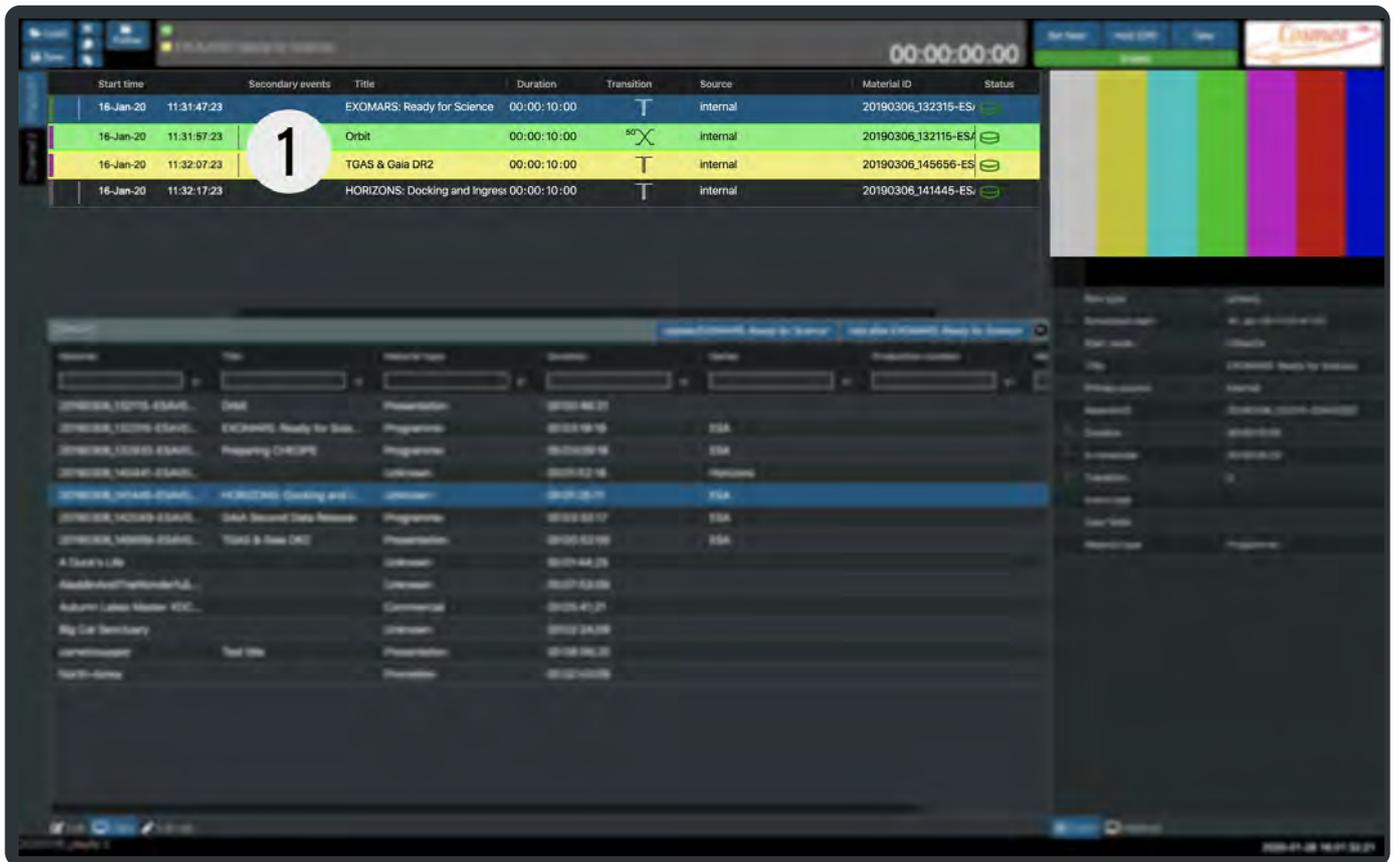


The Cosmos screen

1. The playlist area.
2. A channel selector.
3. A panel showing all the media clips and materials that can be added to a channel. A search facility across all materials allows for rapid compilation of playlists.
4. A preview area for any clip and a panel of associated metadata.
5. Easy to use live playout controls for each channel.
6. A quick way to save and load playlists.

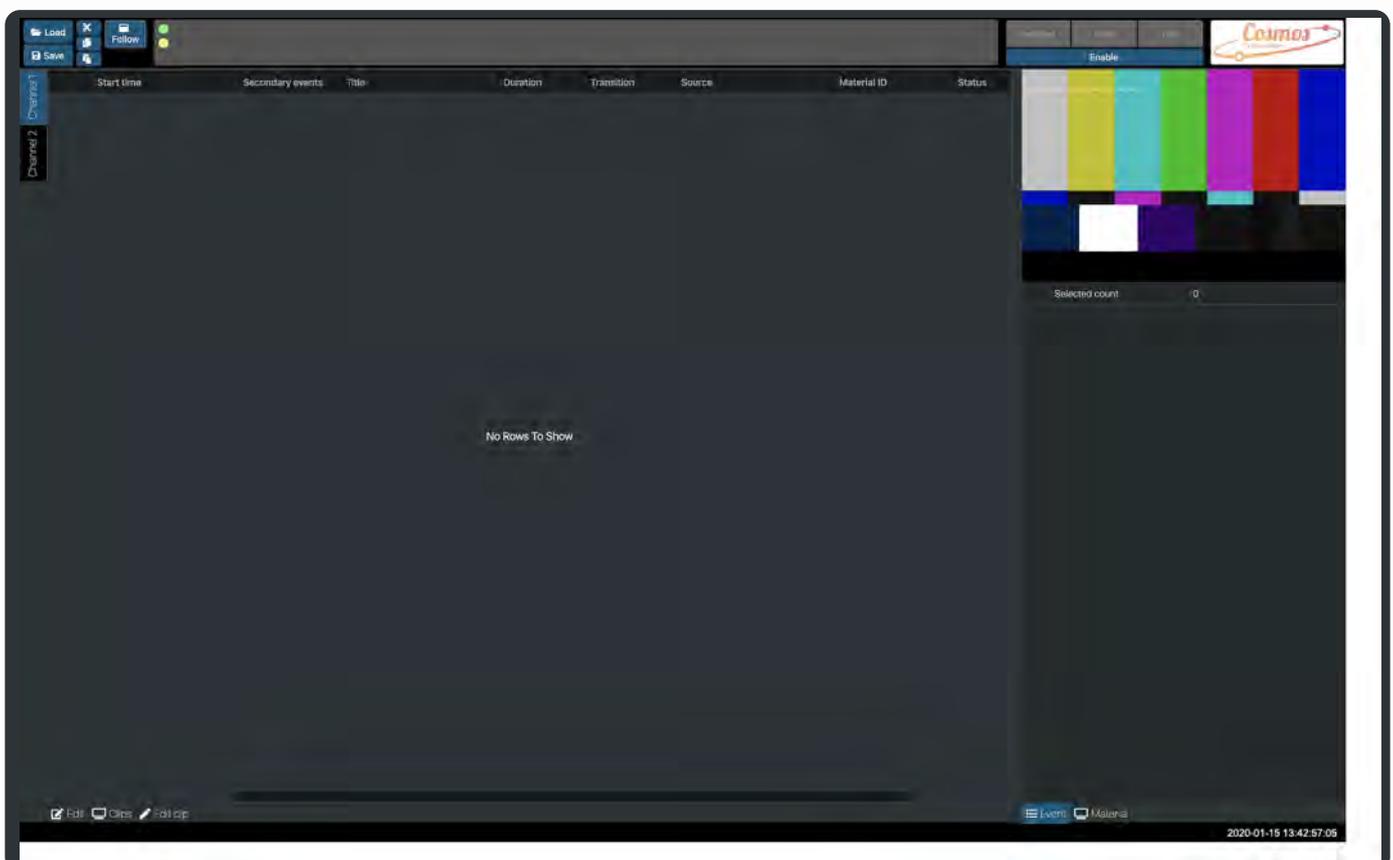
- [1. Playlist area](#)
- [2. Channel Selector](#)
- [3. Edit, Clips and Edit clip panel](#)
- [4. Preview and metadata](#)
- [5. Live controls](#)
- [6. Save and load](#)

1. Playlist area



When opening the application for the first time or if a playlist has not been loaded, the central playlist area displays

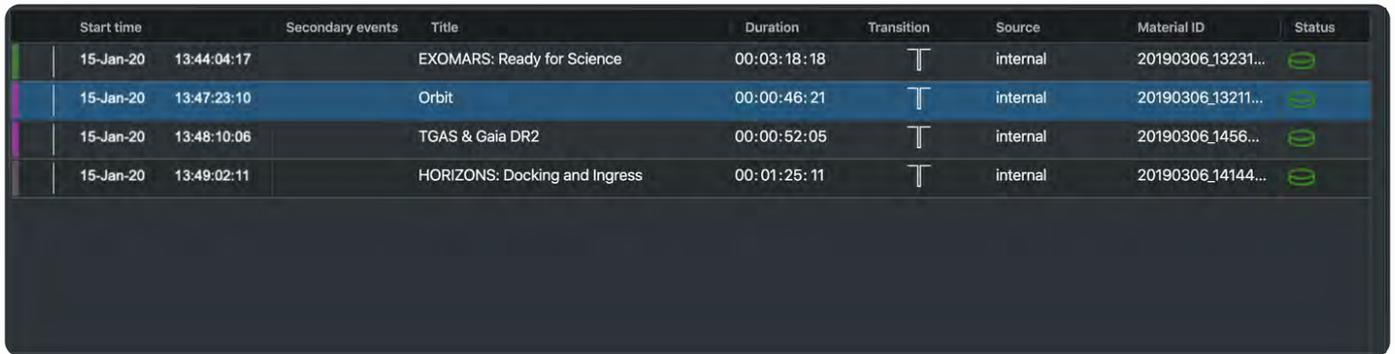
No Rows To Show



To add a clip check the instructions in [Getting Started](#) or the [Clips panel](#). Alternatively, you could load in a pre-existing

playlist. To do this, take a look at section [6. Save and Load](#).

Once you have added some clips the playlist panel should look similar to the following.



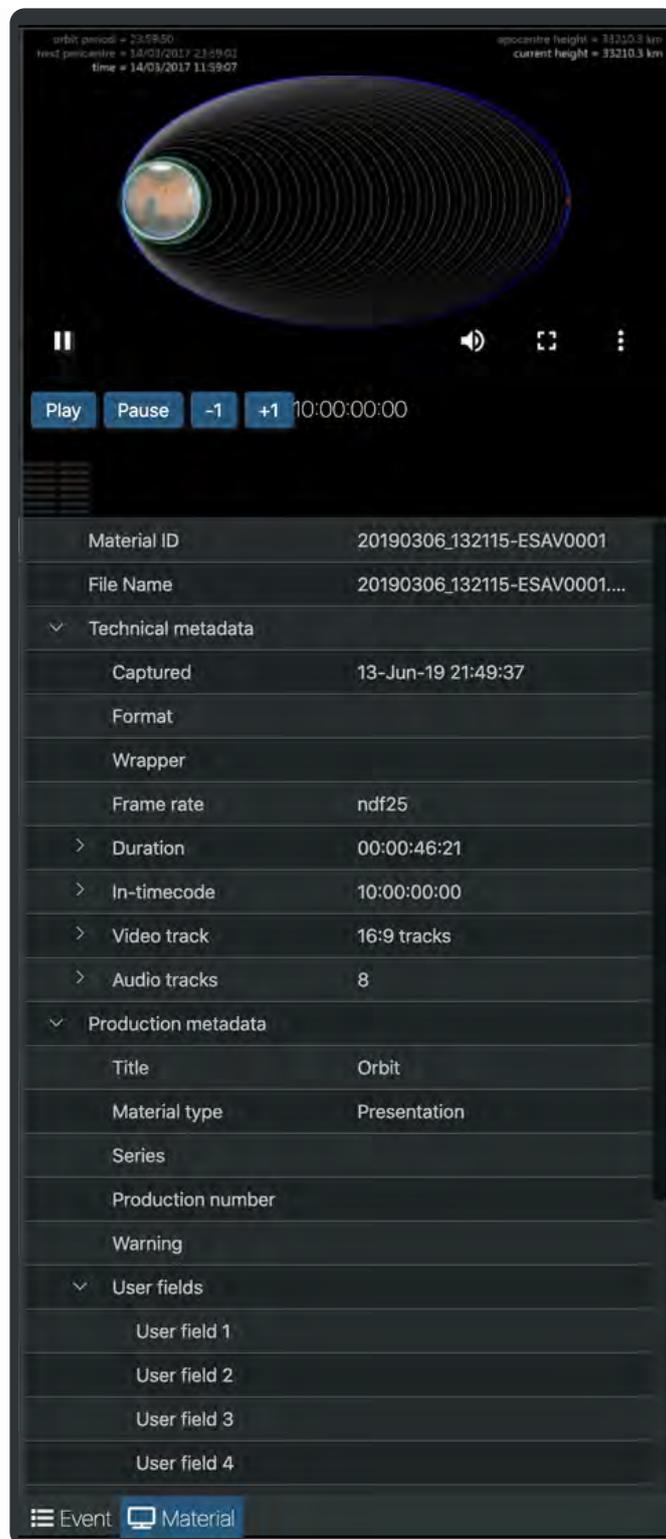
The screenshot shows a dark-themed playlist panel with a table of clips. The table has columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The second row is highlighted in blue.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20	13:44:04:17	EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_13231...	
15-Jan-20	13:47:23:10	Orbit	00:00:46:21	T	internal	20190306_13211...	
15-Jan-20	13:48:10:06	TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_1456...	
15-Jan-20	13:49:02:11	HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_14144...	

To recap, each row is a separate clip that has been added to the playlist. It displays details of the Start time, any Secondary events, Title, Duration, Transition, Source, Material ID and Status.

To change any of the values in a selected row, open the [Edit panel](#).

Remember, if a row is selected in the playlist then its details will also be shown in the Material panel.



Editing a playlist item

If a playlist item is selected its attributes can be found and edited in the Edit panel. Any changes made in this panel will modify the clips attributes in the playlist.

The screenshot displays the Cosmos interface with a playlist table at the top. The table has columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. Below the table is an edit panel for 'Channel 1' with sections for Event, Timing, Transition, and User Fields. To the right is a metadata sidebar with sections for Technical metadata and Production metadata.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESA	🟢
16-Jan-20 11:35:06:16		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	🟢
16-Jan-20 11:35:53:12		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ESA	🟢
16-Jan-20 11:36:45:17		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESA	🟢

When you have made any changes in this panel you must click the **Save** button.

More details of the Edit panel and how to use it can be found [here](#)

Adding a comment

Right click on an item in the playlist and select **Add comment** from the drop-down menu that appears.

The screenshot shows the playlist table with a right-click context menu open over the 'Orbit' item. The menu options are Cut, Copy, Paste, and Add comment.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ESA	🟢
16-Jan-20 11:36:45:17		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ESA	🟢
16-Jan-20 11:37:37:22		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ESA	🟢
16-Jan-20 11:41:10:14		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	🟢
16-Jan-20 11:46:13:18		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_141445-ESA	🟢

A blank item will appear after the selected item. Below the Edit panel will be activated so that you can add some text to appear in the comment and change its background colour.

The screenshot shows the main interface of the Cosmos software. At the top left, there are icons for 'Load', 'Follow', and 'Save'. Below these is a table with columns: Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The table contains five rows of event data. To the right of the table is a 'Channel 1' section with a 'Comment' text box and a 'Colour' dropdown menu. Further right is a 'Material' metadata panel with sections for 'Technical metadata' and 'Production metadata'. At the bottom left, there are icons for 'Edit', 'Clips', and 'Edit clip'. At the bottom right, there is a timestamp: '2020-01-16 13:51:20:05'.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:38:45:17		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:37:37:22		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ES	
16-Jan-20 11:41:10:14		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	
16-Jan-20 11:47:39:04		HORIZONS: Docking and Ingres	00:01:25:11	T	internal	20190306_141445-ES/	

This close-up shows the 'Comment' text box containing the text 'Comment added after Orbit' and the 'Colour' dropdown menu which is set to a red color.

After you have added some text and modified the colour click on  Update

This screenshot shows the same interface as the first one, but now the 'Comment' text box contains 'Comment added after Orbit' and the 'Colour' dropdown menu is set to red. The 'Update' button has been clicked, and the changes are reflected in the main table. The row corresponding to the 'Orbit' event is highlighted in red, and the 'Comment' column for that row now contains the text 'Comment added after Orbit'. The 'Update' button is still visible in the 'Channel 1' section.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	
16-Jan-20 11:38:45:17		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES	
16-Jan-20 11:37:37:22		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ES	
16-Jan-20 11:41:10:14		Orbit	00:00:46:21	T	internal	20190306_132115-ESA	
16-Jan-20 11:49:04:15		HORIZONS: Docking and Ingres	00:01:25:11	T	internal	20190306_141445-ES/	

Update the comment

The comment will update in the playlist.

A playlist and playout

The playlist area looks slightly different when the Live Controls are enabled and an item is **Set Next**.

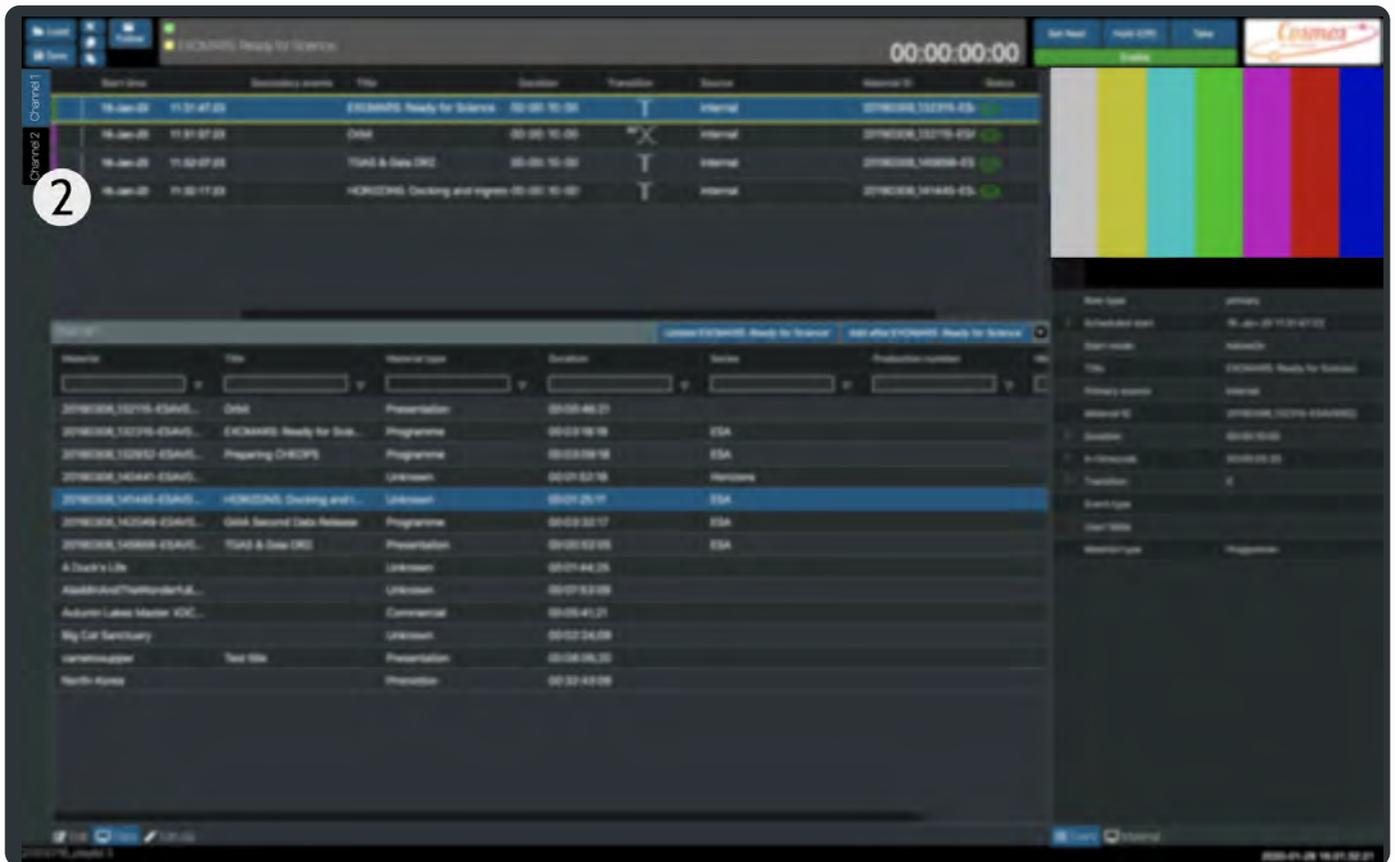
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	⁵⁰ X	internal	20190306_132115-ESA	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

Also, when the playout has started and is moving through the playlist items.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	⁵⁰ X	internal	20190306_132115-ESA	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

More details of Live Controls and playout can be found [here](#).

2. Channel Selector



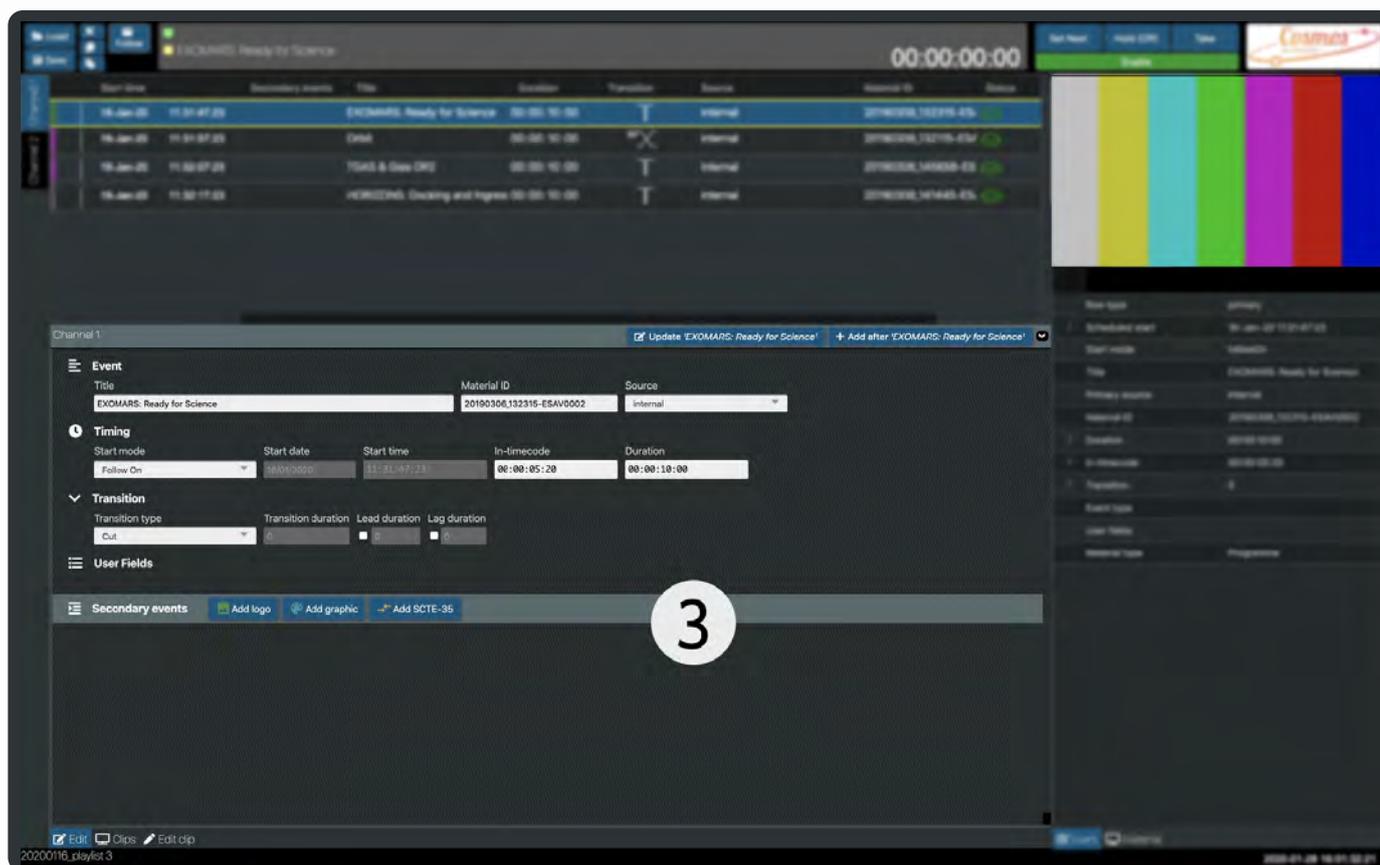
All of the channels that have been created in the configuration tool will appear at the left side of the Cosmos window.

All the clips that are loaded into the Cosmos application are available to all the channels and can be added to any playlist. Just as any saved playlists can also be loaded into any Channel. However, please be aware that some material items may not match the channel's configured framerate and therefore can not be added to a playlist in that Channel.

More details of setting up a Channel and configuring it can be found [here](#).

3. Edit, Clips and Edit clip panel

Edit panel



The  **Edit** panel allows changes to the items in a playlist.

If you want to amend the details of a clip, for example change its Title, Material type, Series, Production number or Warning, then you will need to select the clip in the Clips panel and click on  **Edit clip**.
Details can be found here in the [Edit clip panel](#)

Event



Title - text entry.

Material ID - linked the files material id.

Source - Internal,

Timing

Start mode - Follow On,

Start date - not modifiable.

Start time - not modifiable.

In-timecode - 00:00:00:00. Set the start point of the clip.

Duration - 00:00:00:00. Set the length of the clip.

Transition

Transition type - Cut, Mix, V Fade

Transition duration (frames). The framerate for each channel is set in the configuration tool.

Lead duration

Lag duration.

User fields

These are user defined fields associated with a particular channel. The values in these fields can be used in **Event** graphics or as extra tags on a **Clip** to help with searching and filtering.

To see how to configure **user fields** click [here](#). To view your changes you need to stop and restart the **channelEngine** in the Administration panel. **Restarting a channel** should only be attempted by users who have a thorough understanding of the Cosmos system.

Once you have added the user fields, either for *Materials* or *Events*; restarted the corresponding channel and reloaded the browser window, you will see the user fields displayed.

User fields shown on the **Clip** panel.

The screenshot displays the 'Edit Clip' panel in the Cosmos software. The main window shows a list of events for Channel 1 and Channel 2. The selected event is 'GAIA Second Data Release' with Material ID 20190306_142049-ESAV006. The panel is divided into several sections:

- Event:** Title (GAIA Second Data Release), Material ID (20190306_142049-ESAV006), Source (internal).
- Timing:** Start mode (Follow On), Start date (16/02/2020), Start time (18:53:29:04), In-timecode (18:00:00:00), Duration (00:03:32:17).
- Transition:** Transition type (Cut), Transition duration, Lead duration, Lag duration.
- User Fields:** Team 1 name, Team 2 name, Team 1 score, Team 2 score.
- Secondary events:** Add logo, Add graphic, Add SCTE-35.

On the right side, there is a color calibration chart and a detailed metadata panel for the selected event, including Row type (primary), Scheduled start (18-Feb-20 10:51:20:04), Start mode (followOn), Title (GAIA Second Data Release), Primary source (internal), Material ID (20190306_142049-ESAV0...), Duration (00:03:32:17), In-timecode (10:00:00:00), Transition (0), Event type, User fields, and Material type (Programme).

User fields shown on the **Edit Clip** panel.

The screenshot displays the 'Clip' panel in the Cosmos software. The main window shows the same list of events as the previous screenshot. The selected event is 'Orbit' with Material ID 20190306_132115-ESAV001. The panel is divided into several sections:

- Production Metadata:** Title (Orbit), Material type (Presentation), Series, Production number, Warning.
- User Fields:** Album, Song, Artist.

On the right side, there is a video preview window showing a 3D visualization of an orbit around a planet. Below the preview is a playback control bar with Play, Pause, -1, +1, and a timecode of 10:00:00:00. The metadata panel on the right shows detailed information for the selected clip, including Material ID (20190306_132115-ESAV00...), File Name (20190306_132115-ESAV00...), Technical metadata (Captured: 13-Jun-19 21:49:37, Format, Wrapper, Frame rate: ncf25, Duration: 00:00:46:21, In-timecode: 10:00:00:00, Video track: 16-9 tracks, Audio tracks: 8), Production metadata (Title: Orbit, Material type: Presentation, Series, Production number, Warning), and User fields (Album, Song, Artist, User field 4).

The user fields on the **Clip** - Album, Song and Artist; are also displayed in the list of **Clips** and can be used in any searches.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Team 1 name	Team 2 name	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	20190306...			
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50° X	internal	20190306...			
16-Jan-20 11:32:07:23		Preparing CHEOPS	00:03:09:18	T	internal	20190306...			
16-Jan-20 11:35:17:16		GAIA Second Data Release	00:03:32:17	T	internal	20190306...			
16-Jan-20 11:38:50:08		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306...			
16-Jan-20 11:39:42:13		HORIZONS: Docking and...	00:00:10:00	T	internal	20190306...			

Likewise, the **Event** user fields are displayed in the playlist. You will need to scroll to the right to view them.

Start time	Title	Duration	Transition	Source	Material ID	Team 1 name	Team 2 name	Team 1 score	Team 2 score	Status
16-Jan-20 11:31:47:23	dy for Sci...	00:00:10:00	T	internal	20190306...					
16-Jan-20 11:31:57:23		00:00:10:00	50° X	internal	20190306...					
16-Jan-20 11:32:07:23	PS	00:03:09:18	T	internal	20190306...					
16-Jan-20 11:35:17:16	ata Release	00:03:32:17	T	internal	20190306...					
16-Jan-20 11:38:50:08	R2	00:00:52:05	T	internal	20190306...					
16-Jan-20 11:39:42:13	cking and...	00:00:10:00	T	internal	20190306...					

Secondary Events

To add a logo, graphic or SCTE-35 event click on the corresponding button.

Add logo

Description - text entry.

Play from - From start of event, From end of event.

Offset - 00:00:00:00

Logo name - text entry.

On - checkbox.

If you have added an event logo in error just click on  to delete it.

Add graphic

Description - text entry.

Play from - From start of event, From end of event.

Offset - 00:00:00:00

Graphic name - drop down list of graphics available. Graphics folder is set in the Cosmos configuration tool.

Layer - stepper. Allows reordering of graphics if multiple graphic events present. Higher numbers appear to the user in front of graphics occupying layers at a lower value.

Duration - 00:00:00:00

Trigger graphic animation offset - 00:00:00:00

If you have added a graphic in error just click on  to delete it.

Add SCTE-35

Description - text entry.

Play from - From start of event, From end of event.

Offset - 00:00:00:00

Message - Splice start, Splice end.

Splice ID - checkbox and stepper.

Programme ID - checkbox and stepper.

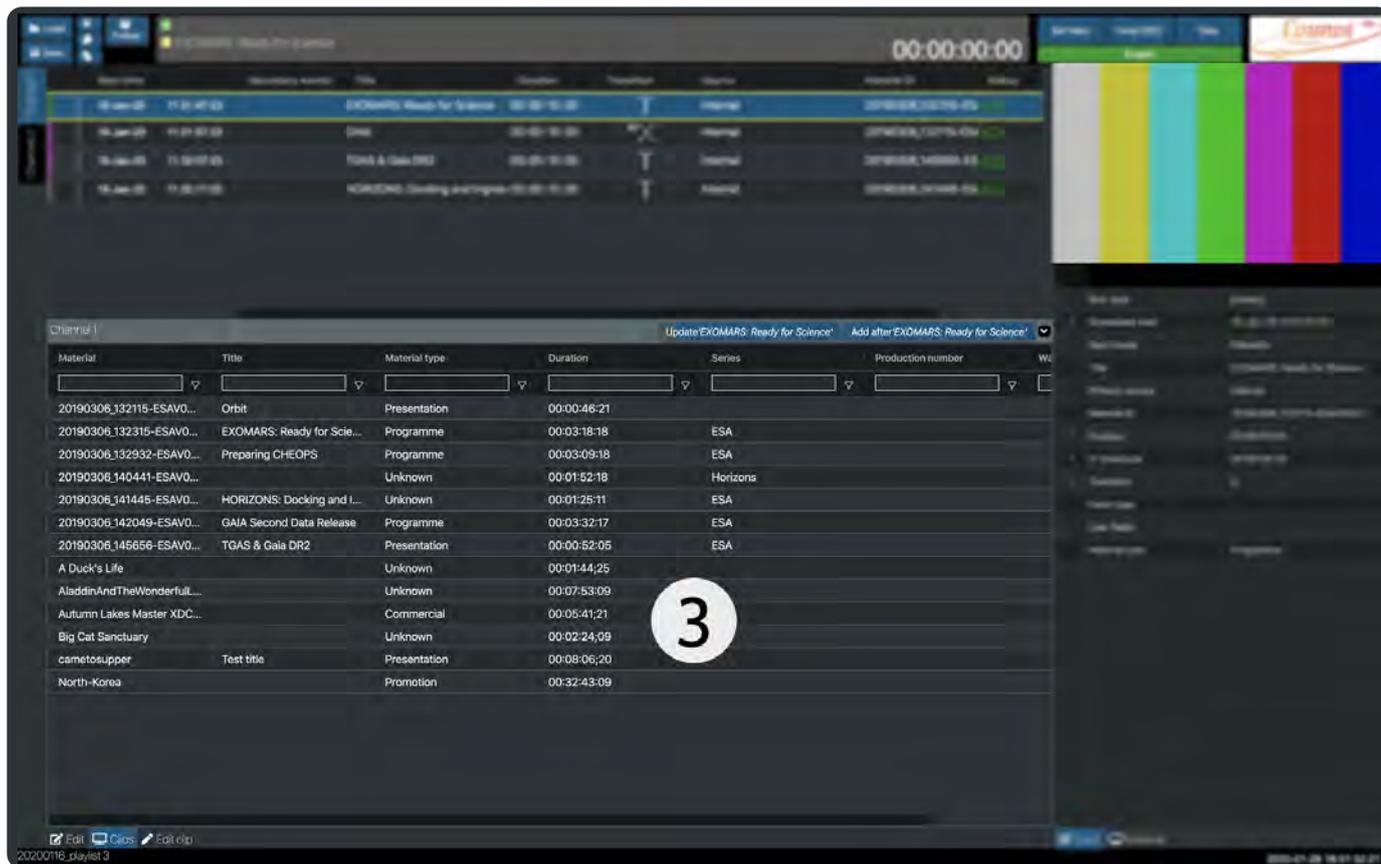
Duration - 00:00:00:00

Auto return - checkbox

If you have added a SCTE-35 in error just click on  to delete it.

It is important to remember that when you have finished making any changes in this panel you must click the **Update** button at the top of the Edit panel. When this is pressed the associated playlist item will be updated in the the playlist.

Clips panel



Material	Title	Material type	Duration	Series	Production number	Warning
20190306_132115-ESAVO...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAVO...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAVO...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAVO...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAVD...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAVO...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAVO...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cametosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			



This panel shows a table of available clips. Each column for Material, Title, Material type, Duration, Series, Production number, Warning can be searched.

Clicking on a row in this table will display more details about the clip in the [Material panel](#).

Adding a clip to a playlist

Select a row in the Clips window that you want to appear in your playlist.

Channel 1 Add at end ▾

Material	Title	Material type	Duration	Series	Production number	Well
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAV0...		Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and l...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			

20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA
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Click the **Add at end** button at the top of the Clips panel. The selected clip will now be added to the playlist area at the top of the screen.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20	13:44:04:17	EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_132315-ES/	

Please be aware that some material items may not match the channel/playlist framerate.
If this is the case a warning will appear at the top of the Clips panel

Material Framerate does not match playlist

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
15-Jan-20 13:44:04:17		EXOMARS: Ready for Science	00:03:18:18	T	internal	20190306_13231...	OK
15-Jan-20 13:47:23:10		Orbit	00:00:46:21	T	internal	20190306_13211...	OK
15-Jan-20 13:48:10:06		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_1456...	OK
15-Jan-20 13:48:02:11		HORIZONS: Docking and Ingress	00:01:25:11	T	internal	20190306_14144...	OK

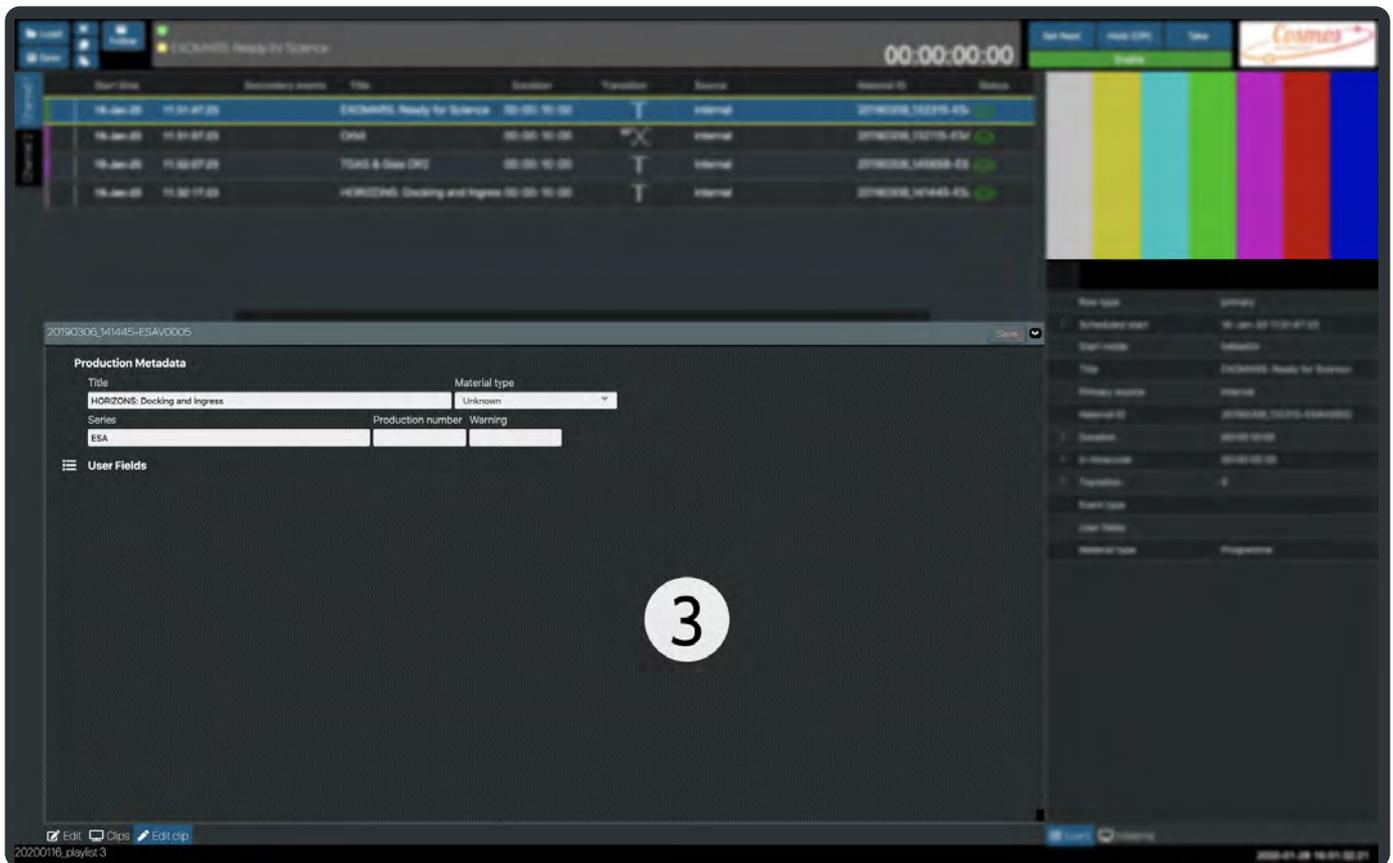
Material	Title	Material type	Duration	Series	Production number	Warning
20190306_132115-ESAV0...	Orbit	Presentation	00:00:46:21			
20190306_132315-ESAV0...	EXOMARS: Ready for Scie...	Programme	00:03:18:18	ESA		
20190306_132932-ESAV0...	Preparing CHEOPS	Programme	00:03:09:18	ESA		
20190306_140441-ESAV0...	Orbit	Unknown	00:01:52:18	Horizons		
20190306_141445-ESAV0...	HORIZONS: Docking and L...	Unknown	00:01:25:11	ESA		
20190306_142049-ESAV0...	GAIA Second Data Release	Programme	00:03:32:17	ESA		
20190306_145656-ESAV0...	TGAS & Gaia DR2	Presentation	00:00:52:05	ESA		
A Duck's Life		Unknown	00:01:44:25			
AladdinAndTheWonderfull...		Unknown	00:07:53:09			
Autumn Lakes Master XDC...		Commercial	00:05:41:21			
Big Cat Sanctuary		Unknown	00:02:24:09			
cameosupper	Test title	Presentation	00:08:06:20			
North-Korea		Promotion	00:32:43:09			

Material ID	File Name	Technical metadata
A Duck's Life	A Duck's Life.mp4	
		Captured: 13-Jun-19 21:32:05
		Format
		Wrapper
		Frame rate: 4800
		Duration: 00:01:44:25
		In-Streamcode: 00:00:00:00
		Video track: 16-9 tracks
		Audio tracks: 1
		Production metadata
		Title
		Material type: Unknown
		Series
		Production number
		Warning
		User fields
		User field 1
		User field 2
		User field 3
		User field 4

Search

A search facility is available on each column where list items can be filtered on whether a search field equals, does not equal, starts with, ends with, contains, or does not contain a particular value.

Edit clip panel



The edit clip panel allows you to change the attributes of the selected clip. Any changes will be reflected only in the clips details and not applied to the clips in a playlist.

If you want to change the playlist item name, its duration or transition you need to select the [Edit panel](#).

Production Metadata

Title - text entry

Material type - Unknown,

Series - text entry

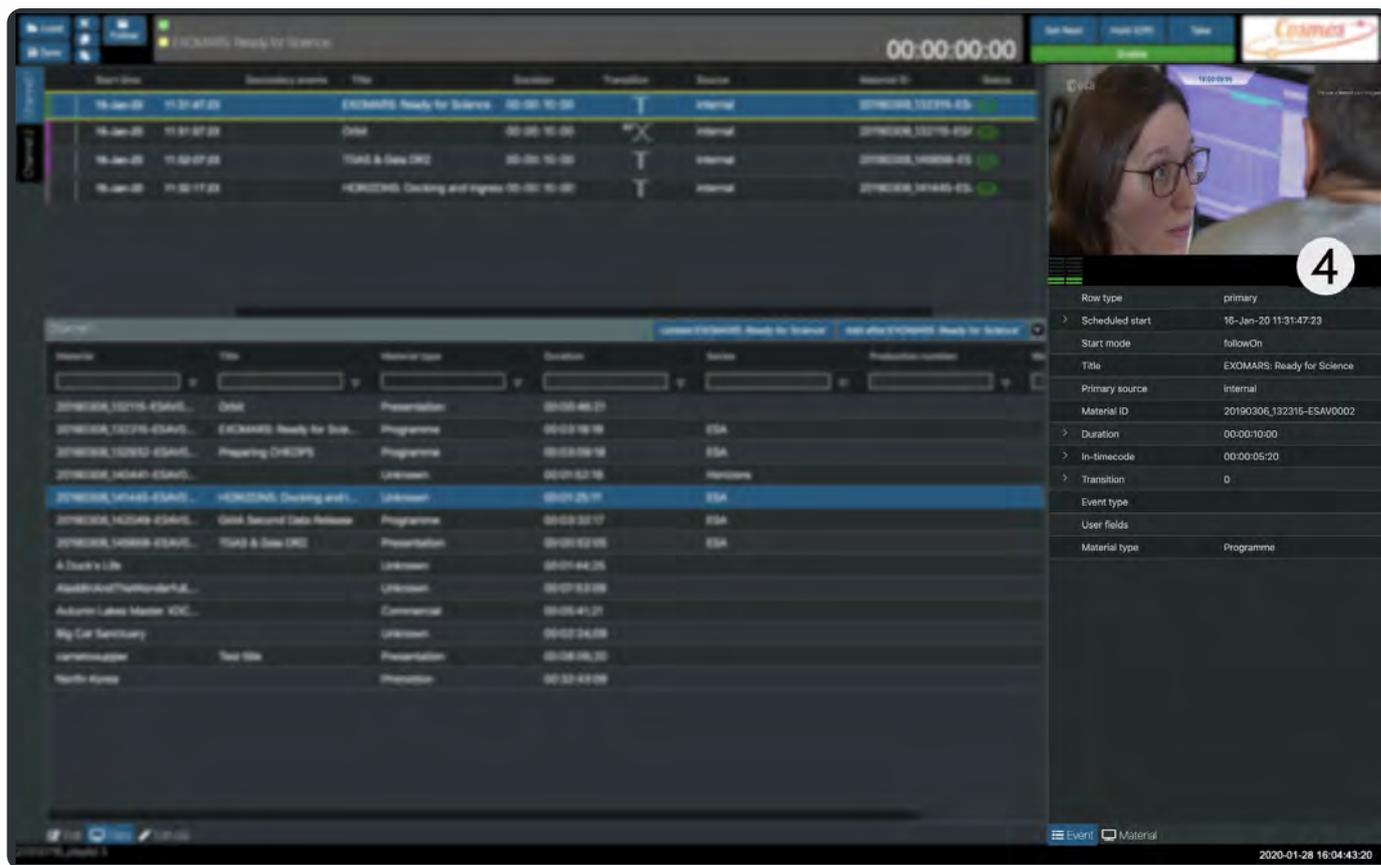
Production number - text entry

Warning - text entry

Any changes made to this panel need to be saved. Ensure that you select the Save button before opening another panel or using another part of the application.

4. Preview and metadata

Event panel



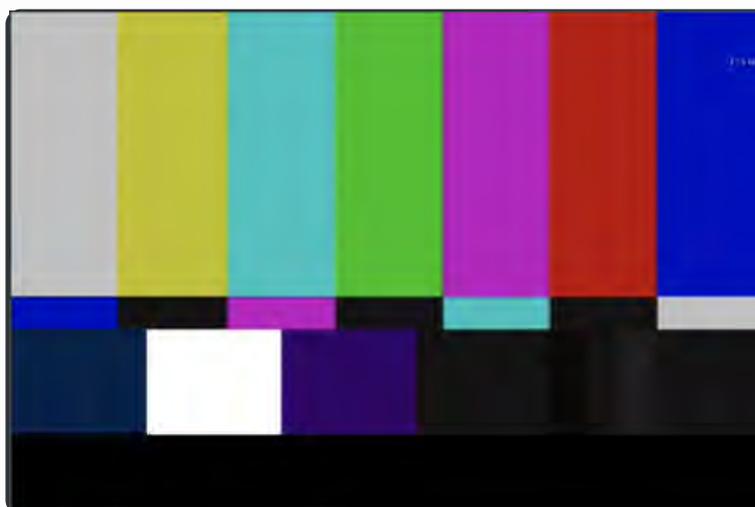
Start time	Secondary source	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	Internal	20190306_132316-ESA	▶
16-Jan-20 11:31:37:23		Orbit	00:00:10:00	X	Internal	20190306_132316-ESA	▶
16-Jan-20 11:30:07:23		Trajectory & Data ORG	00:00:10:00	T	Internal	20190306_140808-ESA	▶
16-Jan-20 11:30:17:23		EXOMARS: Docking and ingress	00:00:10:00	T	Internal	20190306_141440-ESA	▶

Resource	Title	Material type	Duration	Series	Production number
20190306_132316-ESA...	Orbit	Presentation	00:00:10:00	ESA	
20190306_132316-ESA...	EXOMARS: Ready for Sci...	Programme	00:00:10:00	ESA	
20190306_132316-ESA...	Preparing ORGOPS	Programme	00:00:10:00	ESA	
20190306_140808-ESA...	Unknown	Unknown	00:00:10:00	ESA	
20190306_141440-ESA...	EXOMARS: Docking and I...	Unknown	00:00:10:00	ESA	
20190306_140808-ESA...	Data: Second Data Release	Programme	00:00:10:00	ESA	
20190306_140808-ESA...	Trajectory & Data ORG	Presentation	00:00:10:00	ESA	
A Duck's Life	Unknown	Unknown	00:01:44:25		
Asphalt And Thunderbolt...	Unknown	Unknown	00:07:52:09		
Audrey Lakes Master KDC...	Commercial	Commercial	00:05:41:21		
My Car Sanctuary	Unknown	Unknown	00:02:24:09		
Samurai Japan	Year film	Presentation	00:04:06:30		
North Korea	Presentation	Presentation	00:30:43:09		

Row type	primary
Scheduled start	16-Jan-20 11:31:47:23
Start mode	followOn
Title	EXOMARS: Ready for Science
Primary source	Internal
Material ID	20190306_132316-ESA0002
Duration	00:00:10:00
In-timecode	00:00:05:20
Transition	0
Event type	
User fields	
Material type	Programme

This panel displays a preview and details of the playlist item that is currently playing out. It is closely linked with the [Live Controls](#) panel above it.

If the Live controls are not enabled the Event preview may display some colour bars.



If the Live controls are enabled then the Event preview window will display the current item being played out. The playback cannot be paused or restarted so transport controls are not available. The Event details below the preview will display information relating to the last item selected and **NOT** the current playing item.

EXOMARS: Ready for Science 00:00:29:12

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_13231...	🔍
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50√	internal	20190306_13211...	🔍
16-Jan-20 11:32:17:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_14565...	🔍
16-Jan-20 11:32:27:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_14144...	🔍

EXOMARS: READY FOR SCIENCE
15/05/2018

Row type: primary

- Scheduled start: 16-Jan-20 11:31:47:23
- Start mode: followOn
- Title: EXOMARS: Ready for Science
- Primary source: internal
- Material ID: 20190306_132315-ESAV0002
- Duration: 00:00:10:00
- In-timecode: 00:00:05:20
- Transition: 0
- Event type
- User fields
- Material type: Programme

20200116_playlist3 (Modified) 2020-01-16 15:07:59:12

Playout of the EXOMARS clip

Orbit 00:00:29:20

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_13231...	🔍
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50√	internal	20190306_13211...	🔍
16-Jan-20 11:32:17:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_14565...	🔍
16-Jan-20 11:32:27:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_14144...	🔍

Row type: primary

- Scheduled start: 16-Jan-20 11:31:47:23
- Start mode: followOn
- Title: EXOMARS: Ready for Science
- Primary source: internal
- Material ID: 20190306_132315-ESAV0002
- Duration: 00:00:10:00
- In-timecode: 00:00:05:20
- Transition: 0
- Event type
- User fields
- Material type: Programme

20200116_playlist3 (Modified) 2020-01-16 15:08:09:06

Playout of the Orbit clip

The screenshot shows the Cosmos interface with a playlist titled 'TGAS & Gaia DR2'. The main table lists events for January 16, 2020, including 'EXOMARS: Ready for Science', 'Orbit', 'TGAS & Gaia DR2', and 'HORIZONS: Docking and Ingress'. The 'TGAS & Gaia DR2' event is highlighted in green. The right-hand panel shows the 'Material' details for the selected event, including its title, source, and timing information.

Channel	Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
Channel 1	16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315...	🟢
Channel 2	16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50	internal	20190306_132115...	🟢
Channel 1	16-Jan-20 11:32:17:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656...	🟢
Channel 2	16-Jan-20 11:32:27:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141444...	🟢

Material details for 'EXOMARS: Ready for Science':

- Row type: primary
- Scheduled start: 16-Jan-20 11:31:47:23
- Start mode: followOn
- Title: EXOMARS: Ready for Science
- Primary source: internal
- Material ID: 20190306_132315-ESAV0002
- Duration: 00:00:10:00
- In-timecode: 00:00:05:20
- Transition: 0
- Event type: (empty)
- User fields: (empty)
- Material type: Programme

Playlist of the TGAS clip

The screenshot shows the Cosmos interface with a playlist titled 'HORIZONS: Docking and Ingress'. The main table lists events for January 16, 2020, including 'EXOMARS: Ready for Science', 'Orbit', 'TGAS & Gaia DR2', and 'HORIZONS: Docking and Ingress'. The 'HORIZONS: Docking and Ingress' event is highlighted in green. The right-hand panel shows the 'Material' details for the selected event, including its title, source, and timing information.

Channel	Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
Channel 1	16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES...	🟢
Channel 2	16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50	internal	20190306_132115-ES...	🟢
Channel 1	16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES...	🟢
Channel 2	16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES...	🟢

Material details for 'EXOMARS: Ready for Science':

- Row type: primary
- Scheduled start: 16-Jan-20 11:31:47:23
- Start mode: followOn
- Title: EXOMARS: Ready for Science
- Primary source: internal
- Material ID: 20190306_132315-ESAV0002
- Duration: 00:00:10:00
- In-timecode: 00:00:05:20
- Transition: 0
- Event type: (empty)
- User fields: (empty)
- Material type: Programme

Playlist of the HORIZONS clip

Material panel

The screenshot shows the Cosmos interface with a list of clips on the left and a metadata panel on the right. The metadata panel displays the following information:

- Material ID: 20190306_132315-ESAV0002
- File Name: 20190306_132315-ESAV0002...
- Technical metadata:
 - Captured: 13-Jun-19 21:51:18
 - Format: [blank]
 - Wrapper: [blank]
 - Frame rate: ndf25
 - Duration: 00:03:18:18
 - In-timecode: 00:00:00:00
 - Video track: 16-9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: EXDMARS: Ready for Science
 - Material type: Programme
 - Series: ESA
 - Production number: [blank]
 - Warning: [blank]
- User fields:
 - User field 1: [blank]
 - User field 2: [blank]
 - User field 3: [blank]
 - User field 4: [blank]

This panel displays metadata of the clip that is currently selected in the Clips panel as well as a video preview.

The screenshot shows the Cosmos interface with a list of clips on the left and a metadata panel on the right. The metadata panel displays the following information:

- Material ID: 20190306_132115-ESAV0001
- File Name: 20190306_132115-ESAV0001.m...
- Technical metadata:
 - Captured: 13-Jun-19 21:49:37
 - Format: [blank]
 - Wrapper: [blank]
 - Frame rate: ndf25
 - Duration: 00:00:46:21
 - In-timecode: 10:00:00:00
 - Video track: 16-9 tracks
 - Audio tracks: 8
- Production metadata:
 - Title: Orbit
 - Material type: Presentation
 - Series: [blank]
 - Production number: [blank]
 - Warning: [blank]
- User fields:
 - User field 1: [blank]
 - User field 2: [blank]
 - User field 3: [blank]
 - User field 4: [blank]

Below the screenshot, a blue bar highlights the selected clip information:

20190306_132115-ESAV0... Orbit Presentation 00:00:46:21

With the Orbit clip selected and associated metadata shown in the Material panel

Play Pause -1 +1 10:00:00:00

Material ID	20190306_132115-ESAV0001
File Name	20190306_132115-ESAV0001.m...
Technical metadata	
Captured	13-Jun-19 21:49:37
Format	
Wrapper	
Frame rate	ndf25
> Duration	00:00:46:21
> In-timecode	10:00:00:00
> Video track	16:9 tracks
> Audio tracks	8
Production metadata	
Title	Orbit
Material type	Presentation
Series	
Production number	
Warning	
User fields	
User field 1	
User field 2	
User field 3	
User field 4	

Event Material

The screenshot displays the Cosmos software interface. At the top, there are navigation icons (Load, Follow, Save) and a status bar with 'Enable' and the Cosmos logo. The main area is divided into several panels:

- Channel 1 Playlist:** A table listing materials with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The selected material is 'GAIA Second Data Release' (Material ID: 20190306_142049-ESAV0008).
- Channel 1 Material Panel:** A detailed view of the selected material, showing fields for Material, Title, Material type, Duration, Series, and Production number. The selected material's details are: Material: 20190306_142049-ESAV0008, Title: GAIA Second Data Release, Material type: Programme, Duration: 00:03:32:17, Series: ESA, Production number: 20190306_142049-ESAV0008.
- Technical metadata:** A section showing technical details such as Captured (13-Jun-10 21:53:09), Format, Wrapper, Frame rate (not25), Duration (00:03:32:17), In-timecode (10:00:00:00), Video track (16-S tracks), and Audio tracks (8).
- Production metadata:** A section showing production details like Title (GAIA Second Data Release), Material type (Programme), Series (ESA), and Production number.
- User fields:** A section with four empty user-defined fields.

At the bottom of the interface, there is a status bar showing '20200119_playlist' on the left and '2020-01-15 14:55:23:12' on the right.

With the GAIA clip selected and associated metadata and video preview shown in the Material panel

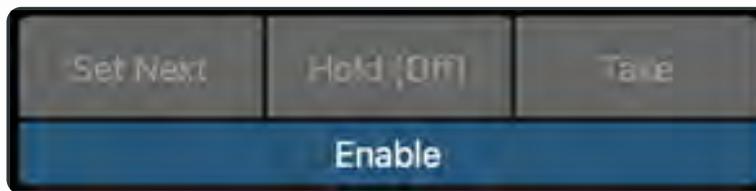
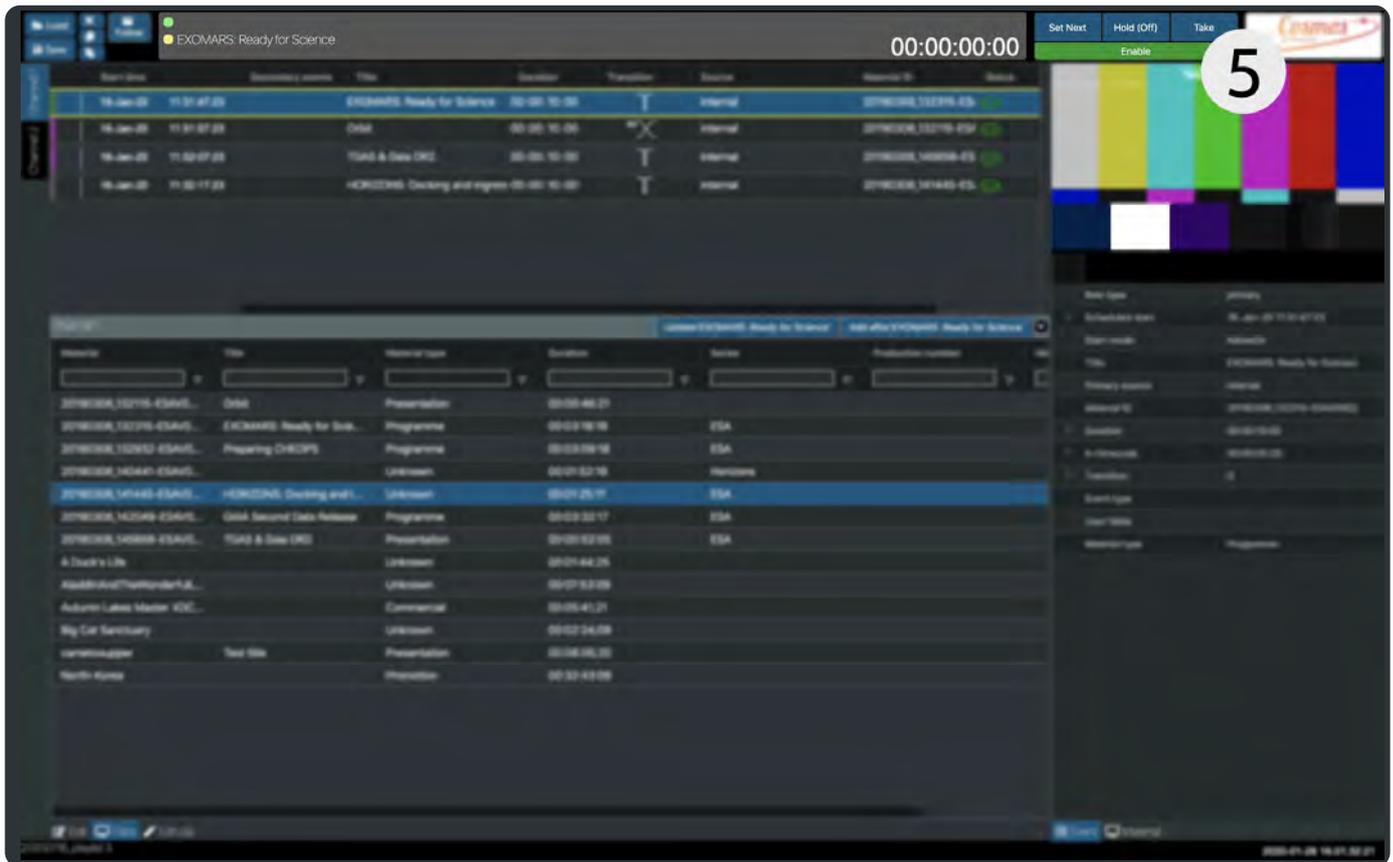
20190306_142049-ESAV0... GAIA Second Data Release Programme 00:03:32:17 ESA



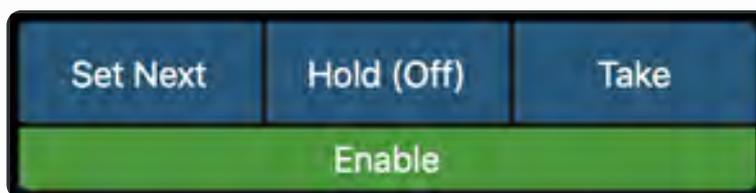
At the top of the Material panel is a clip preview with play / pause video transport controls. Other controls include a plus one and minus one frame stepper. The current timecode of the clip and audio volume bars for left and right channels are also displayed.



5. Live Controls



Clicking Enable will activate the Live Controls.



Set Next

Select a row in the playlist and click **Set Next** will set the row's background to yellow. It is then primed for playback. See the **Take** command later to start the sequential playback of clips in the playlist.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	🟢
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50% X	internal	20190306_132115-ES/	🟢
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES	🟢
16-Jan-20 11:32:17:23		HORIZONS: Docking and ingress	00:00:10:00	T	internal	20190306_141445-ES/	🟢

Selecting the EXOMARS clips and then **Set Next**

Hold(Off)

Hold toggles between Off and Hold. When Hold is set to **Hold(Hold)** the current clip will play to its last frame and hold. It will not play on through the rest of the playlist.

Take

Click on **Take** to start the the channel payout. The **Set Next** selected item's background will be highlighted green and the next item **Orbit**, in the playlist will turn yellow.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	$50^\circ X$	internal	20190306_132115-ES/	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES/	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

Playout of the **EXOMARS** clip

The panel to the left of the Live Controls, displays the current live item with a green dot adjacent to it and a yellow dot for the next clip in the playlist.

EXOMARS: Ready for Science	Orbit	00:00:26:03
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After a playlist entry has finished the next row in the playlist will be activated and so on until the entire playlist has played out.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	$50^\circ X$	internal	20190306_132115-ES/	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES/	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

Playout of the **Orbit** clip

Orbit	TGAS & Gaia DR2	00:00:30:03
--------------	-----------------	-------------

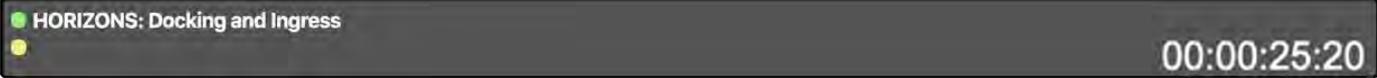
Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	$50^\circ X$	internal	20190306_132115-ES/	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES/	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

Playout of the **TGAS** clip

TGAS & Gaia DR2	HORIZONS: Docking and Ingress	00:00:32:00
----------------------------	-------------------------------	-------------

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Science	00:00:10:00	T	internal	20190306_132315-ES/	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	$50^\circ X$	internal	20190306_132115-ES/	
16-Jan-20 11:32:07:23		TGAS & Gaia DR2	00:00:10:00	T	internal	20190306_145656-ES/	
16-Jan-20 11:32:17:23		HORIZONS: Docking and Ingress	00:00:10:00	T	internal	20190306_141445-ES/	

Playout of the **HORIZONS** clip



● **HORIZONS: Docking and Ingress**

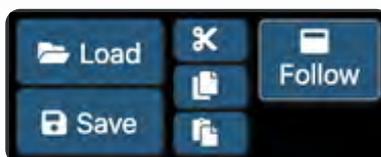
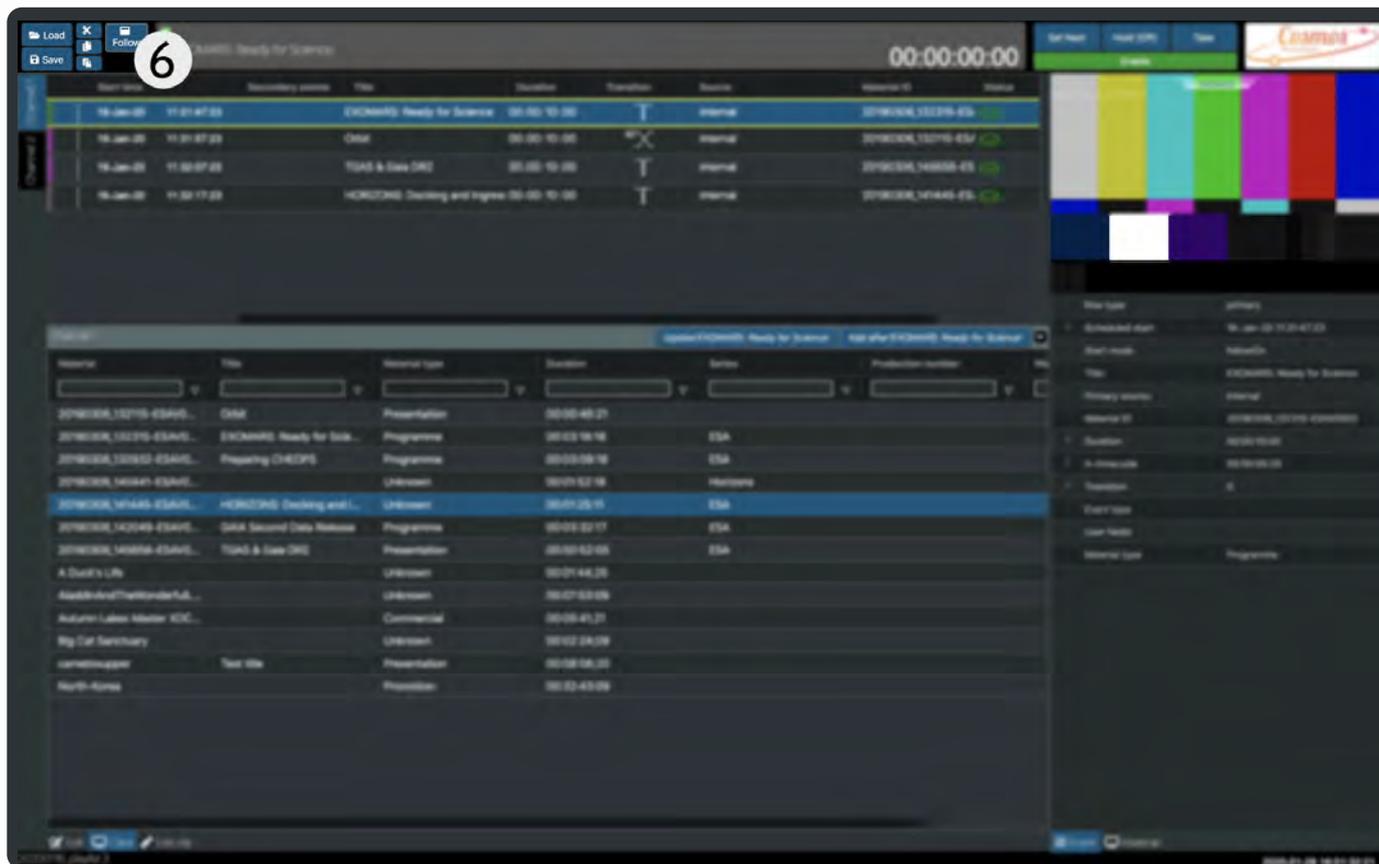
●

00:00:25:20

Note that as the **HORIZONS** clip is the last item in the playlist the title of the next clip, adjacent to the yellow dot, is empty.

As the active clip is played the output of the channel can be viewed in the [Event panel](#).

6. Save and Load



Load

Clicking on **Load** displays a modal panel showing a list of saved playlists associated with the current channel. An Append playlist option at the bottom of the panel will add the selected playlist on to the end of the current playlist or clear down the playlist panel and replace its contents with the selected playlist. Select a playlist, choose whether to append to the current playlist and click Load.

Save

Save will open a modal panel where you can type in a name for your newly created playlist. Typing in an existing name will save the playlist over the top of the previously saved file. Playlist files are saved into the folder set in configuration.

Playlists are saved

Cut, Copy, Paste

Cut, copy and paste tools are also available for quickly modifying the playlist panel beneath.

Follow

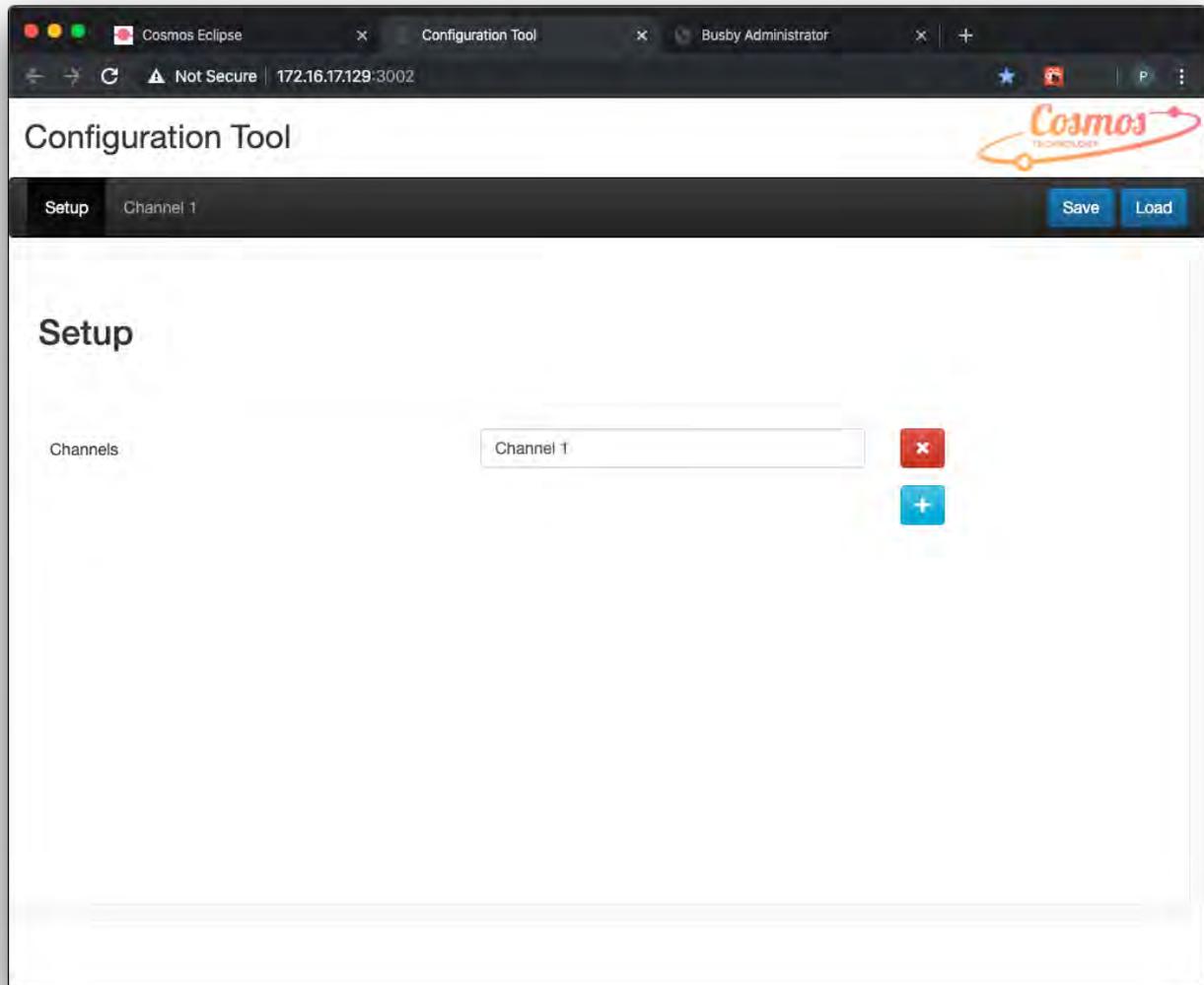
The follow will move the playlist up the screen as it progresses. This feature will only be seen on longer playlists where the later clips are displayed out of view, off the bottom of the screen.

Configuration Tool

The configuration tool allows you to create new channels and configure those channel's inputs, outputs, media, playlists and general settings.

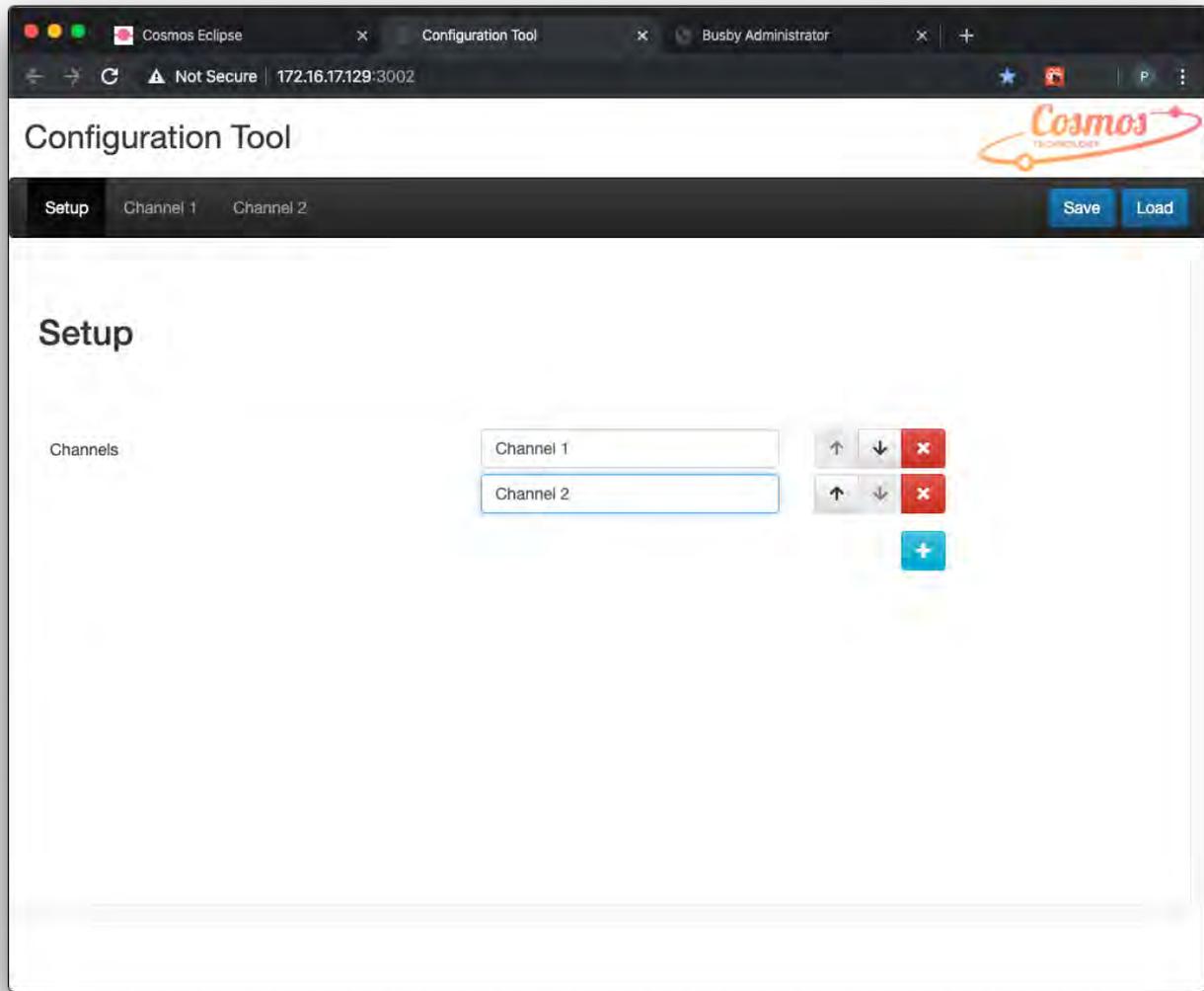
This part of the software should only be accessed by users who have a thorough understanding of the Cosmos system and also administrator privileges on the host PC.

Creating a new channel



Configuration Tool Setup screen.

Click on the  to create a new channel. Then you can add a name to the newly created channel.



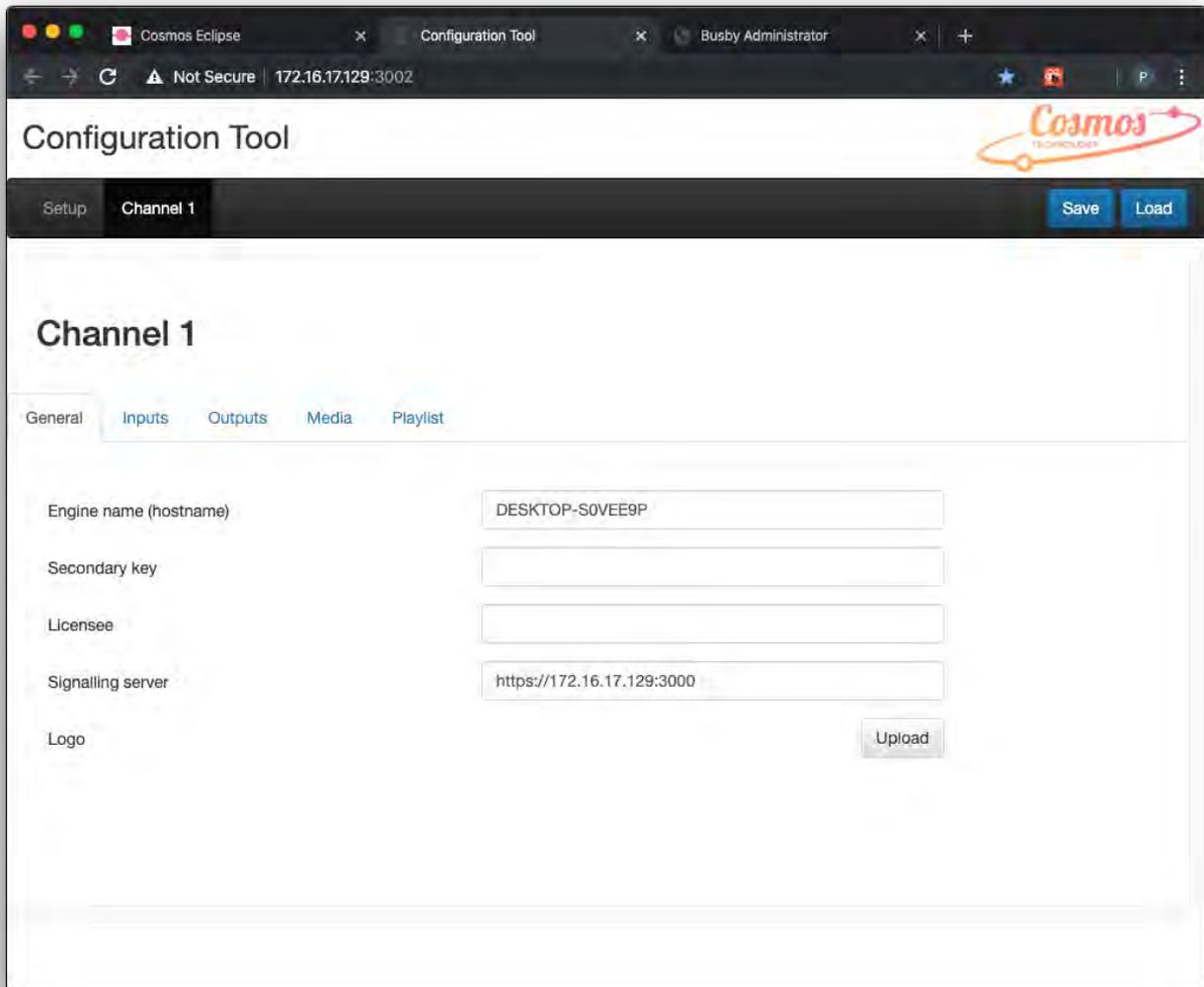
Click on the **Save** button in the top right of the screen to save your input details. Once a channel is created and named it appears in the dark panel near the top of the screen.

If the channel has been created in error then clicking on the **X** will delete it.

Once a channel is created it can have its own preferences and settings: input and output sources, paths to media, playlists as run and autosave files, frame rate and aspect ratio.

General tab

On this screen you can set the Engine name (hostname), Secondary key, Licensee, Signalling server and Logo.

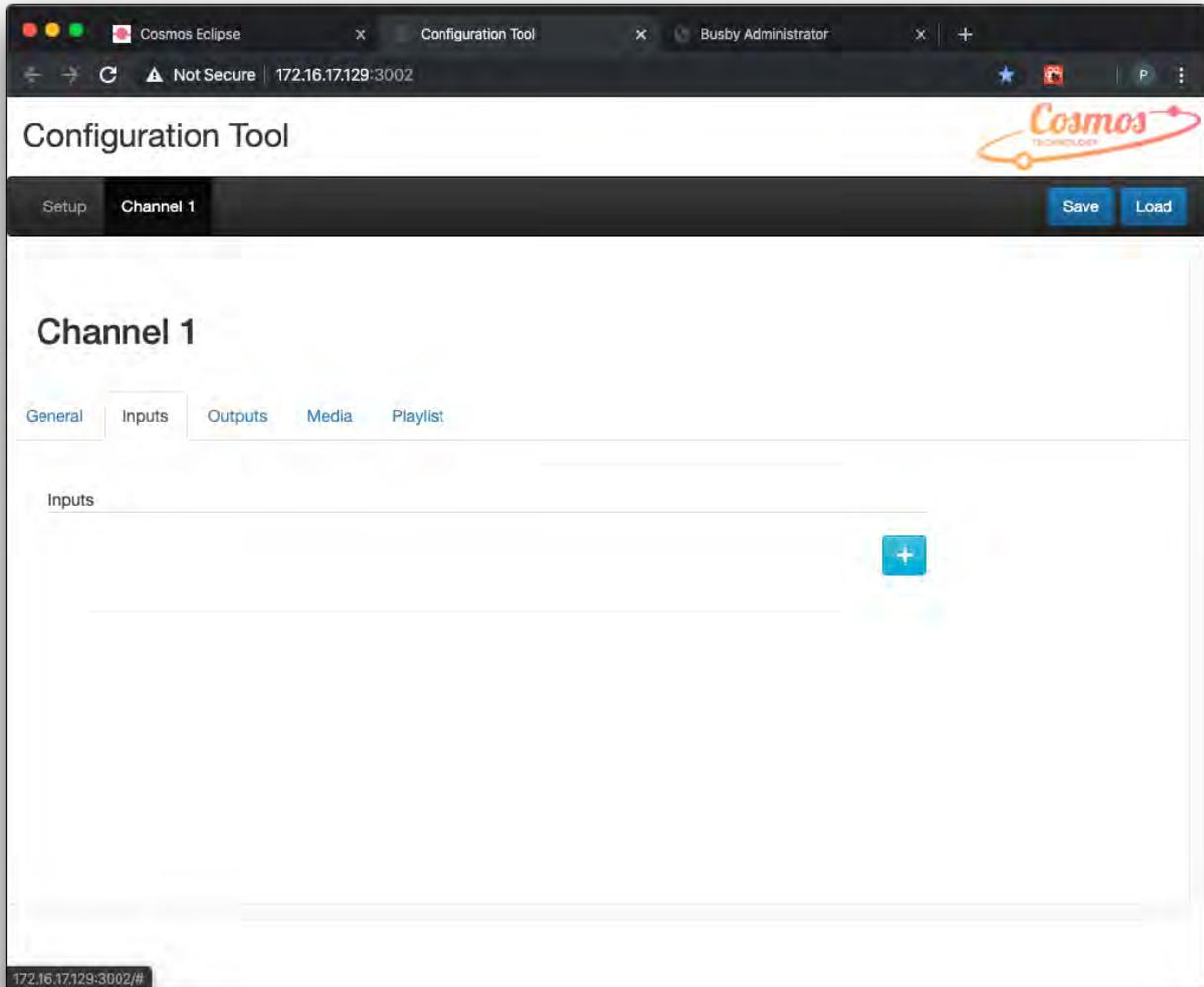


Configuration Tool • General tab screen for Channel 1

Clicking the logo button allows you to choose a local file for the channels logo. Once uploaded the logo will appear on the Cosmos channel.

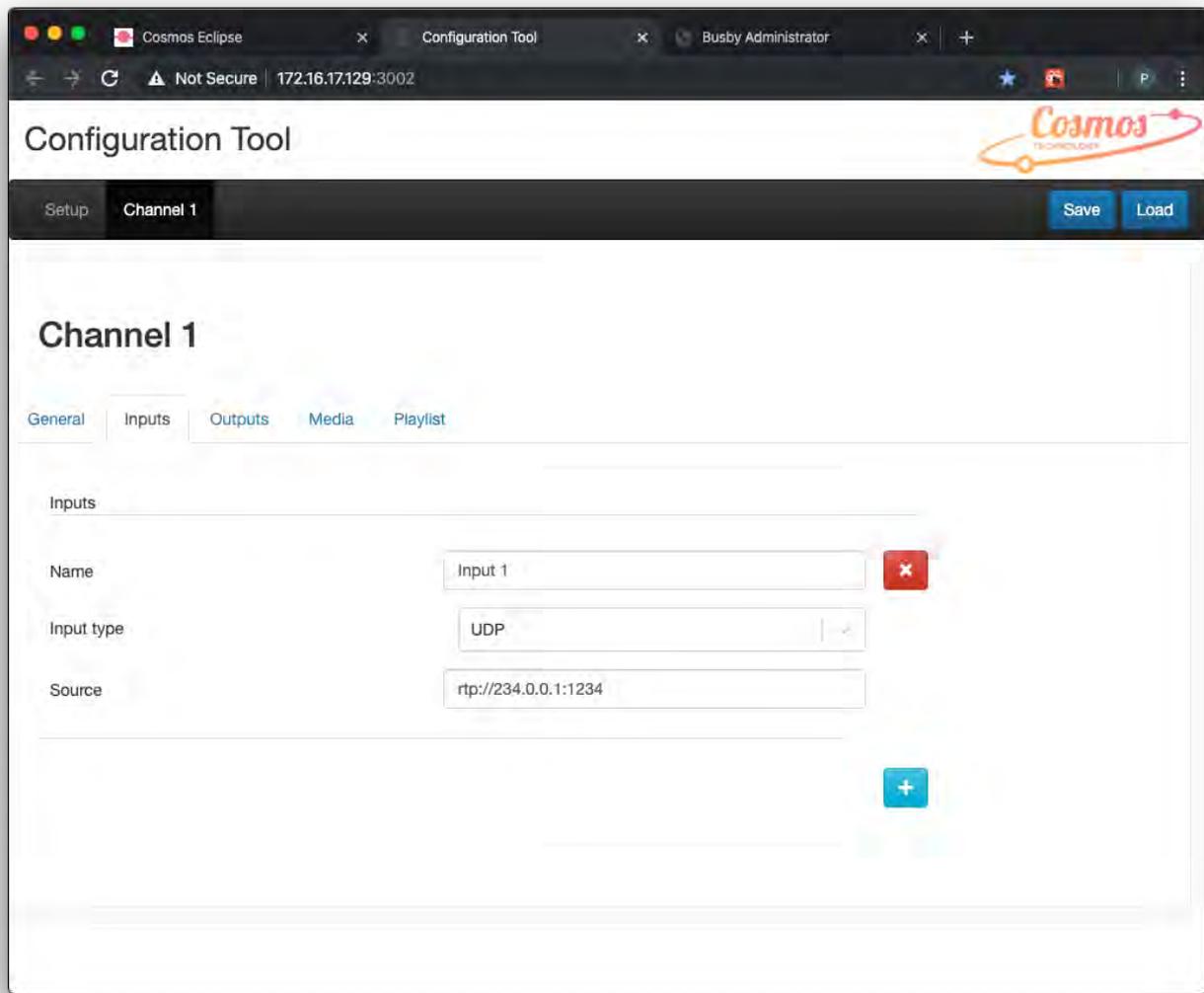
Inputs tab

Inputs can be allocated to the channel on this screen. Each input can have a name, be set as a UDP or SDI input type and have an associated source.



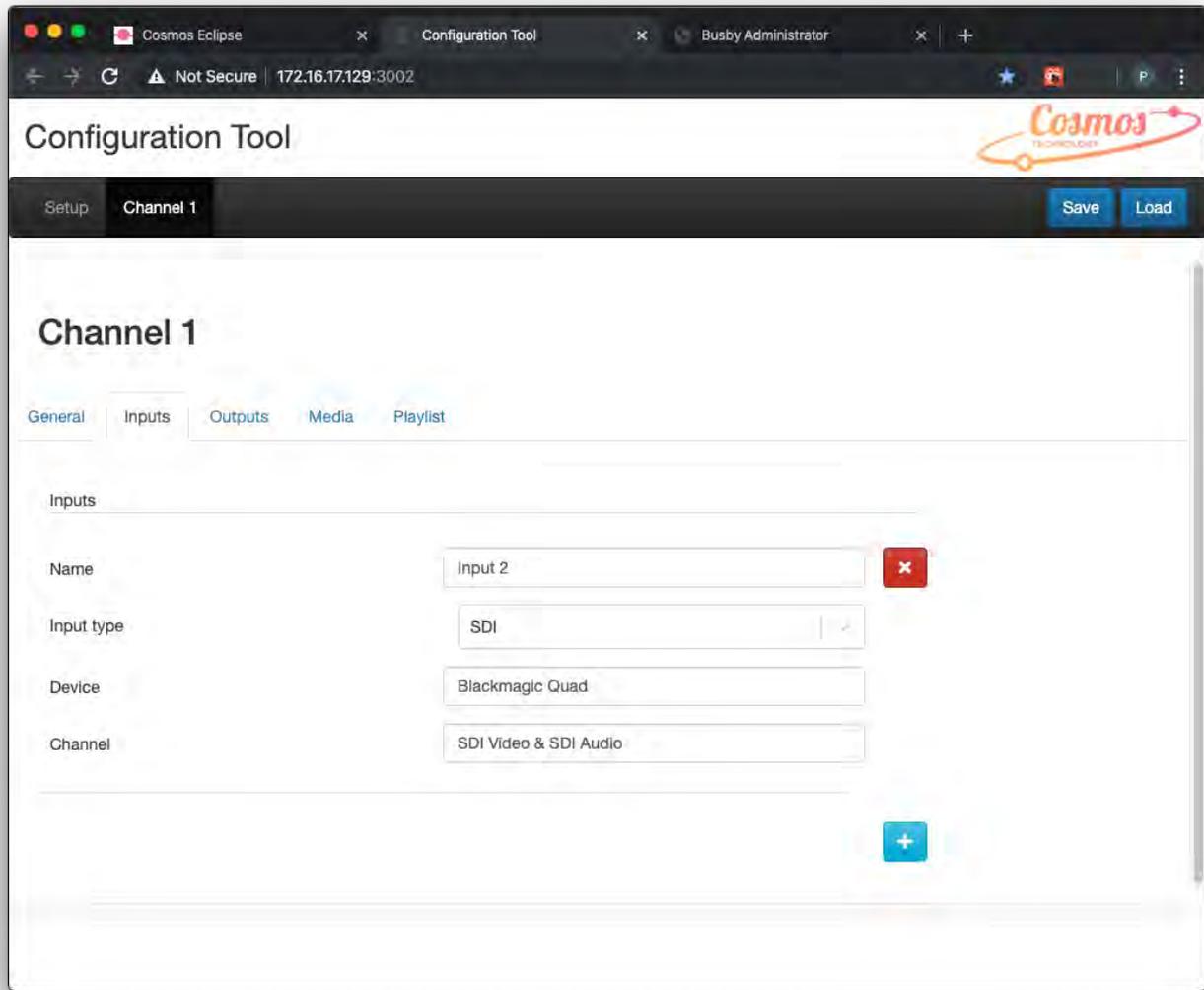
Configuration Tool • Inputs screen for Channel 1 before any inputs have been added

Click on the  to create a new input.



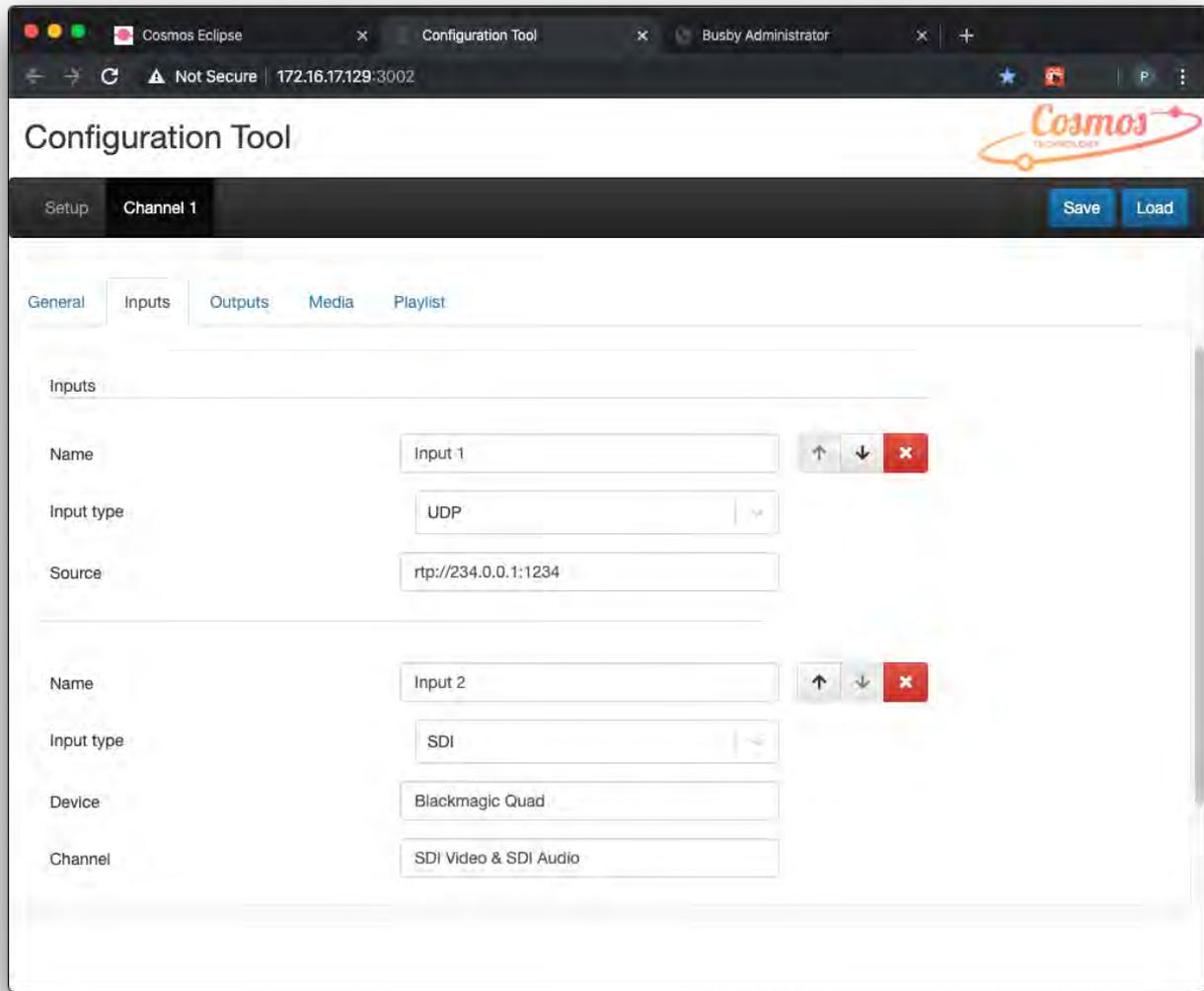
When the input type is UDP a multicast rtp source can be added.

Click on the  button in the top right of the screen to save your input details.



When the input type is SDI a device and channel can be specified in the text fields.

Click on the  button in the top right of the screen to save your input details.



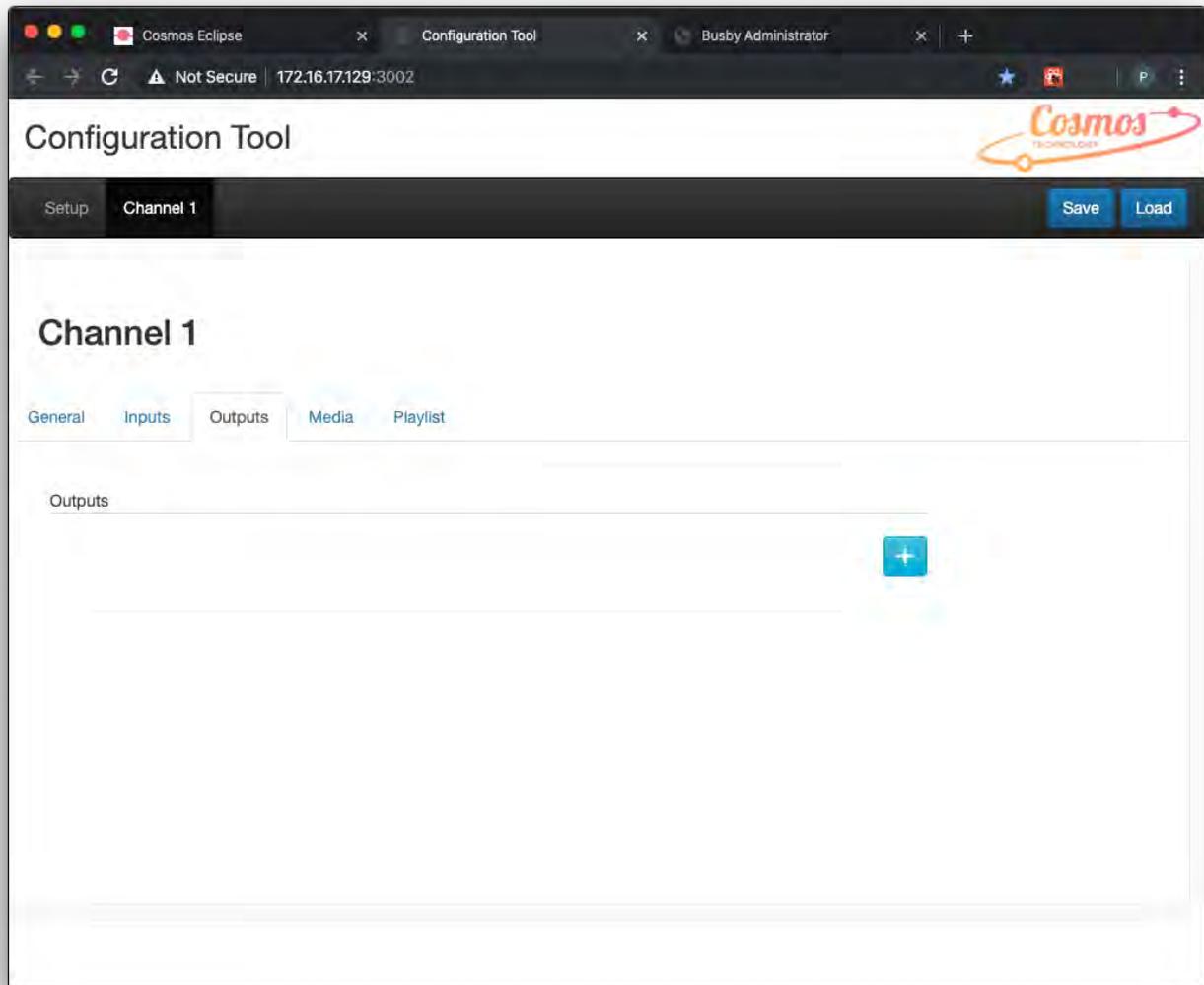
Screen showing multiple inputs

With multiple inputs added the priority of these can be changed by clicking on the   arrows associated with each input.

If the input has been created in error then clicking on the  will delete it.

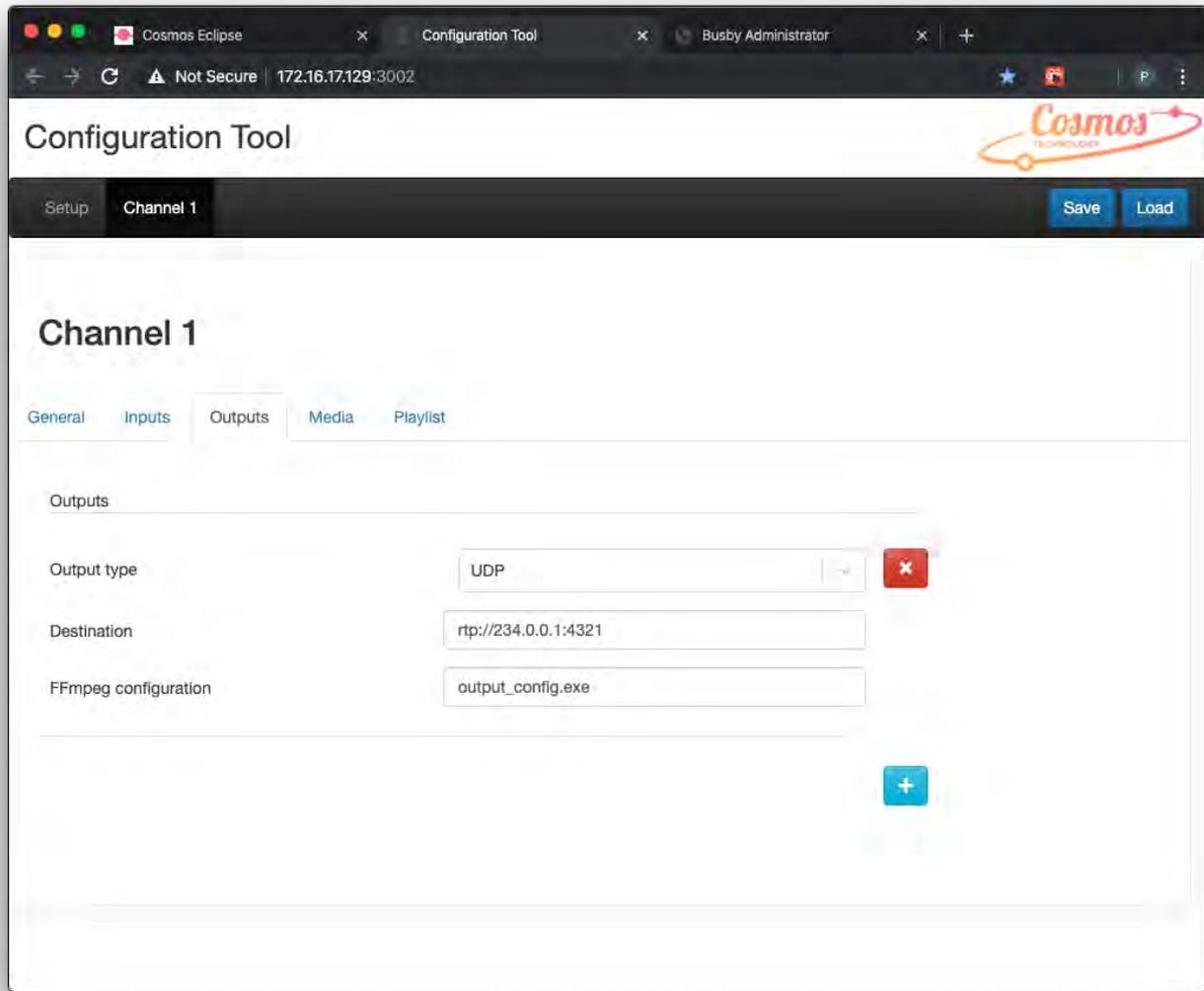
Outputs tab

Outputs can be allocated to the channel on this screen. Each output can have a name, be set as a UDP or SDI output type and have an associated destination or configuration.



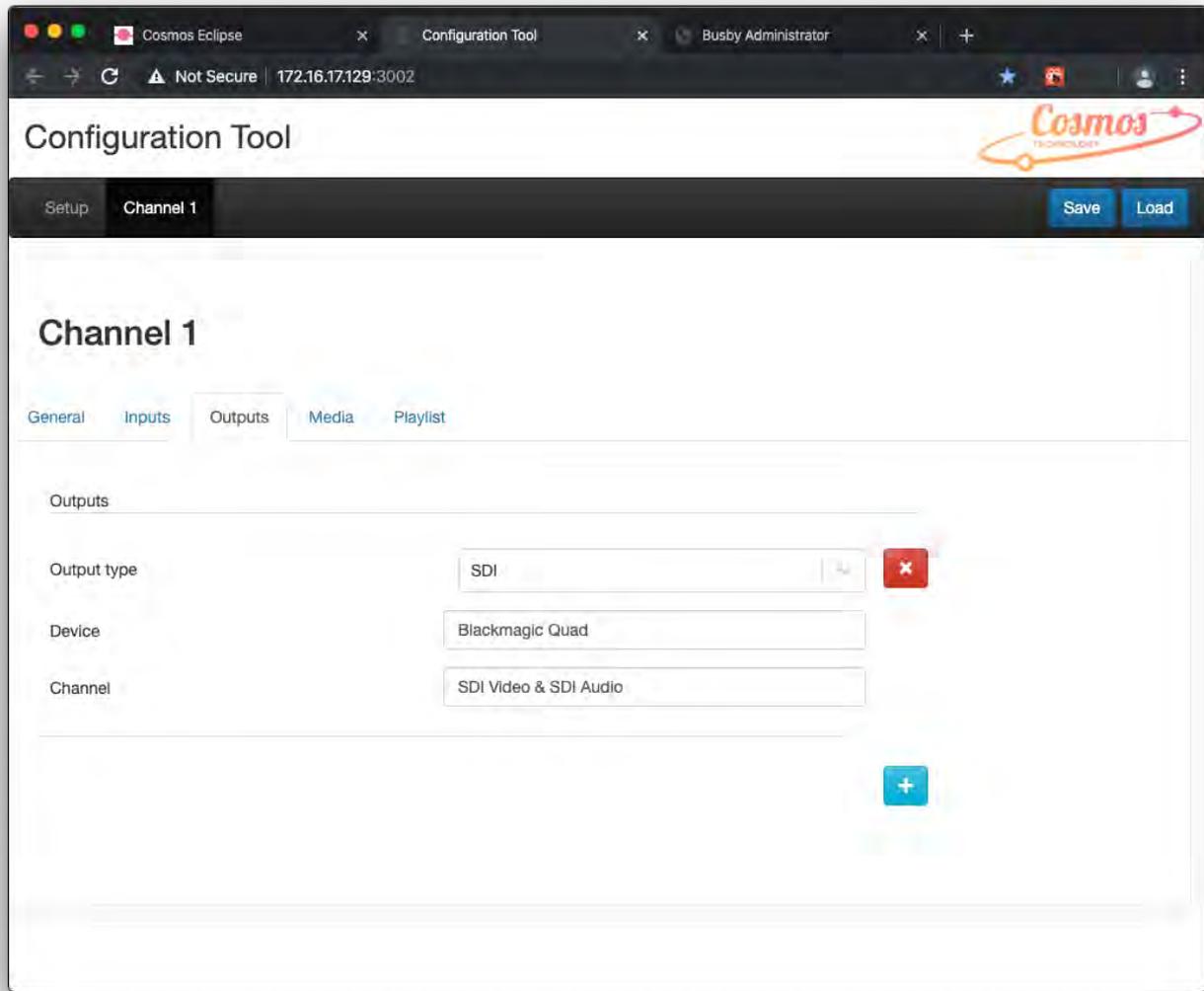
Configuration Tool • Outputs screen for Channel 1 before any outputs have been added

Click on the  to create a new output.



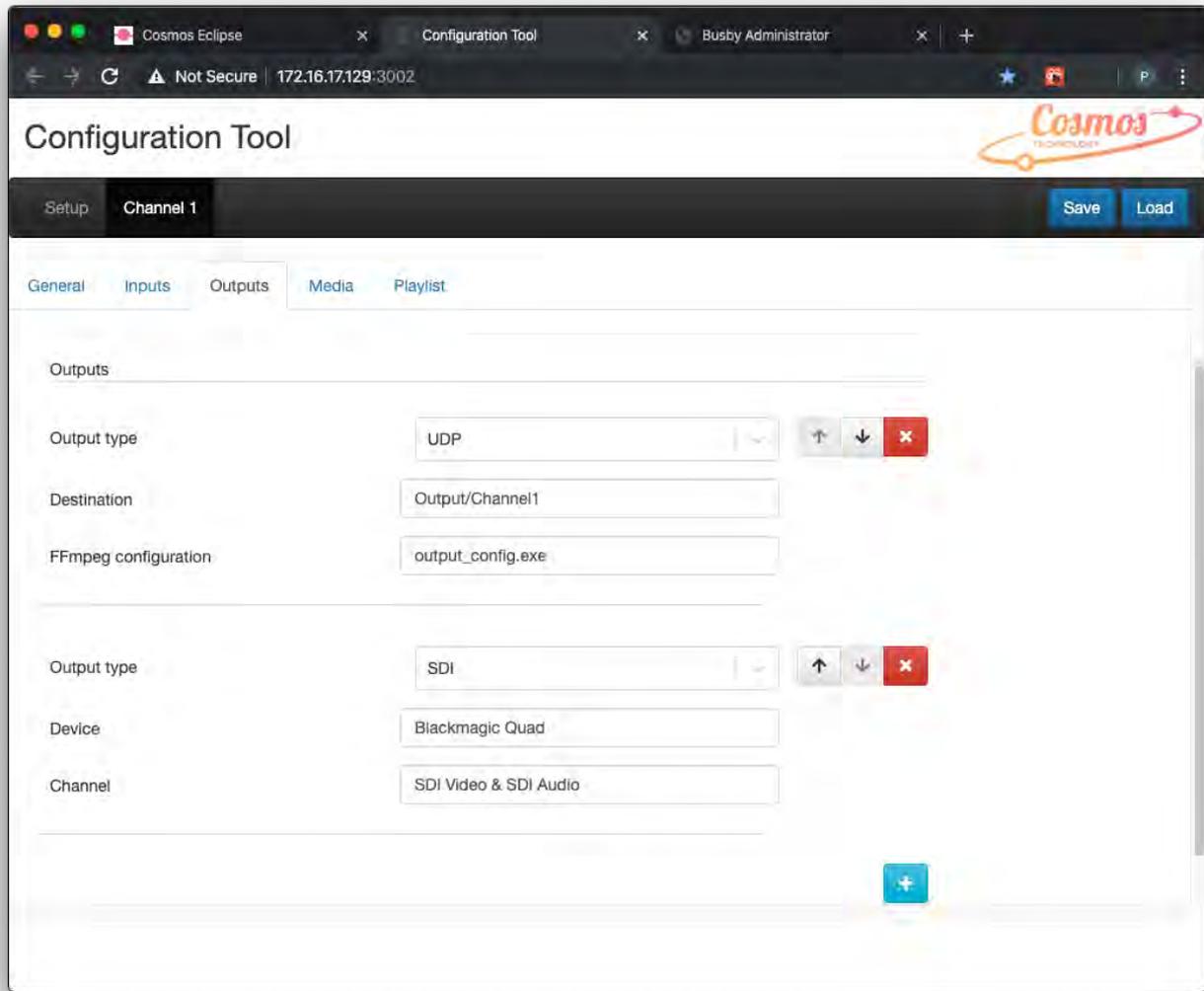
When the output type is UDP a destination url and FFmpeg configuration can be added.

Click on the  button in the top right of the screen to save your output details.



When the output type is SDI a device and channel can be specified in the text fields.

Click on the  button in the top right of the screen to save your output details.



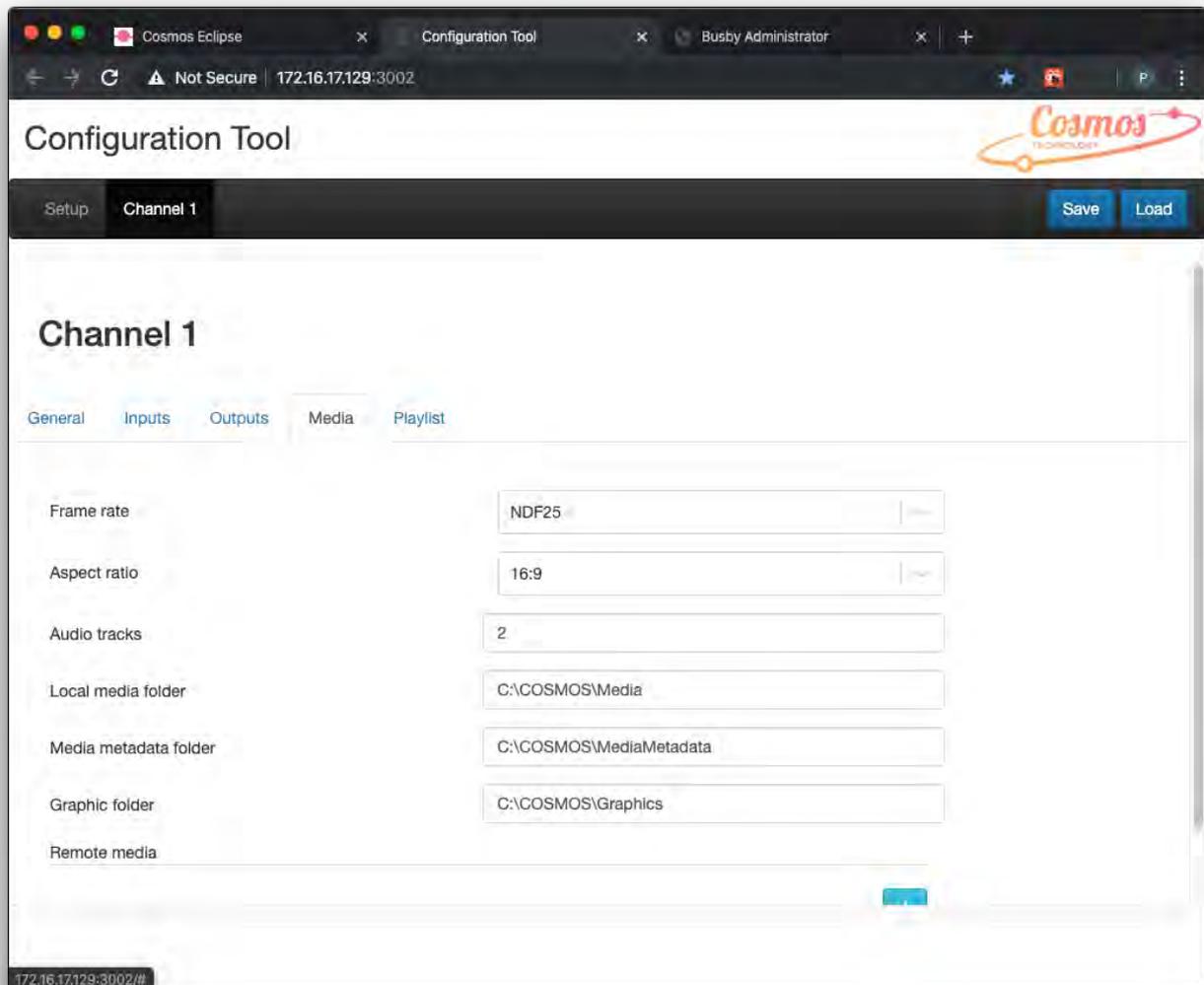
Screen showing multiple outputs

With multiple outputs added the priority of these can be changed by clicking on the  arrows associated with each output.

If the output has been created in error then clicking on the  will delete it.

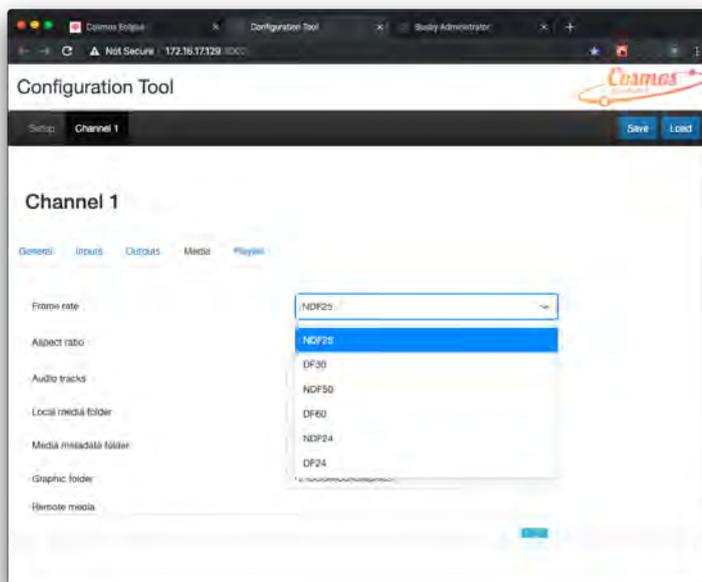
Media tab

The channels frame rate and aspect ratio are set on this tab. Once the frame rate is set for a channel only media clips with a matching framerate can be allocated into this channels playlist. It is also **important** to remember that when viewing clips in the Cosmos clips panel that only clips with a corresponding frame rate will be seen and available for selection.



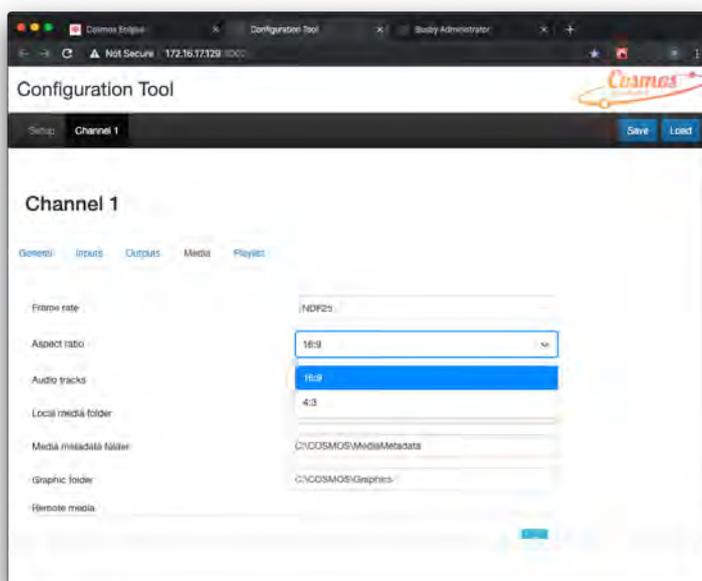
Configuration Tool • Media screen for Channel 1

Select one of the frame rates available in the drop down menu.

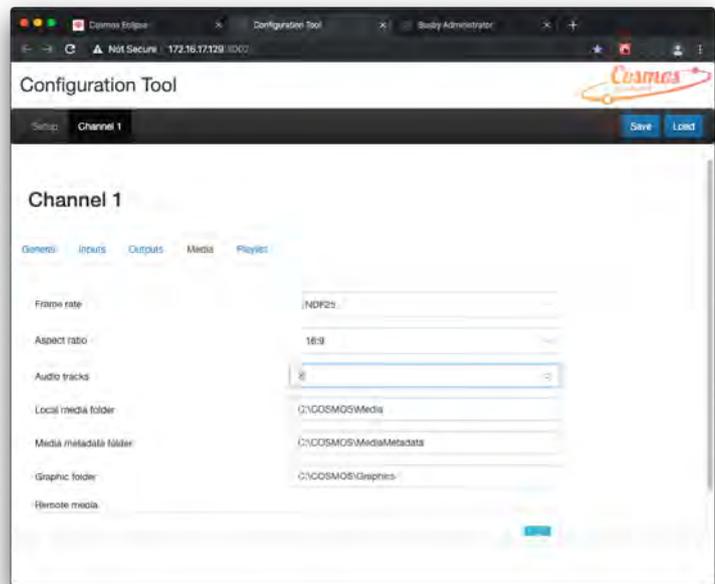


Once the frame rate is set for a channel only media clips with a matching framerate can be allocated into this channels playlist.

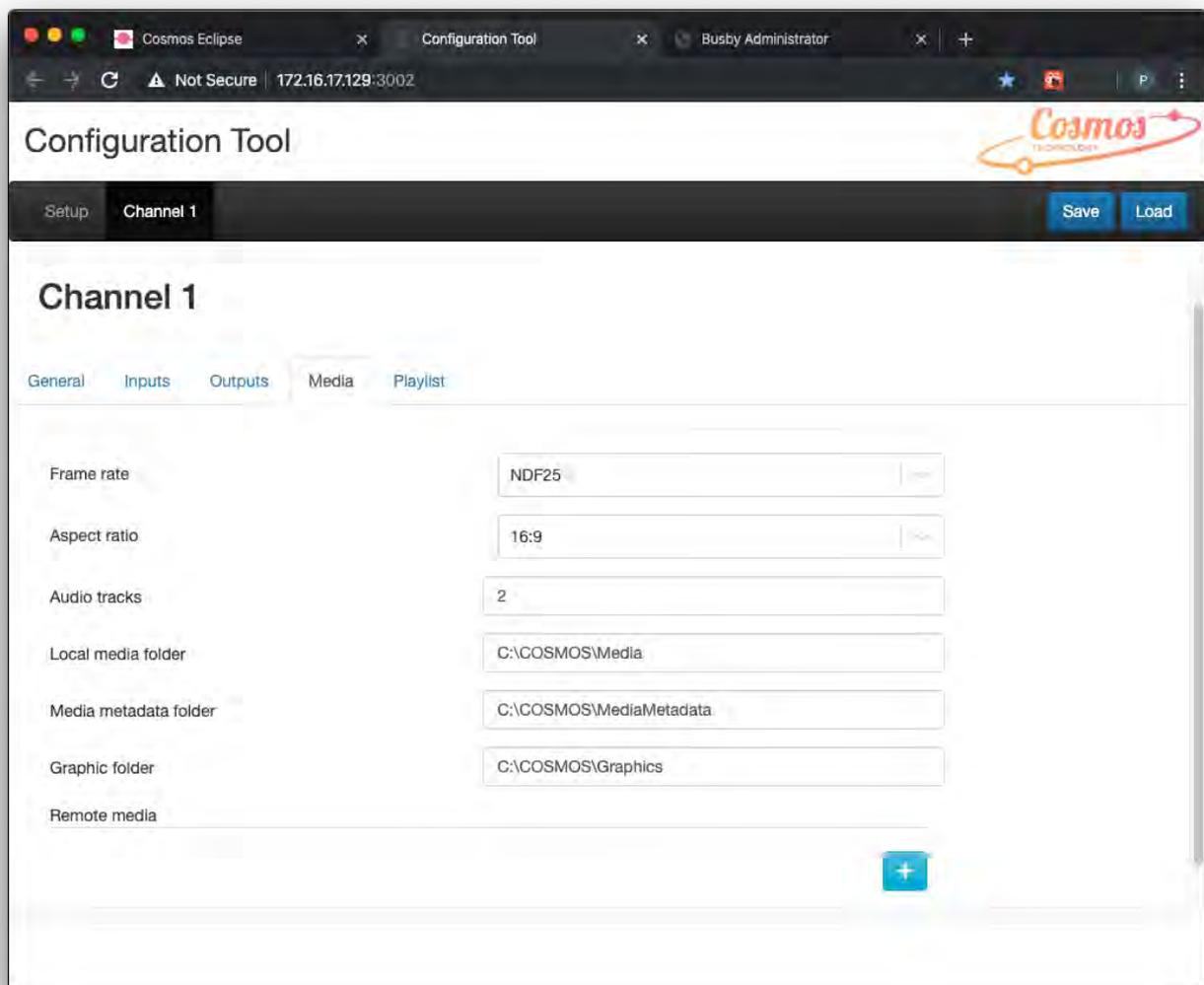
Set an aspect ratio for the channel.



Set the number of audio tracks you require for the channel.



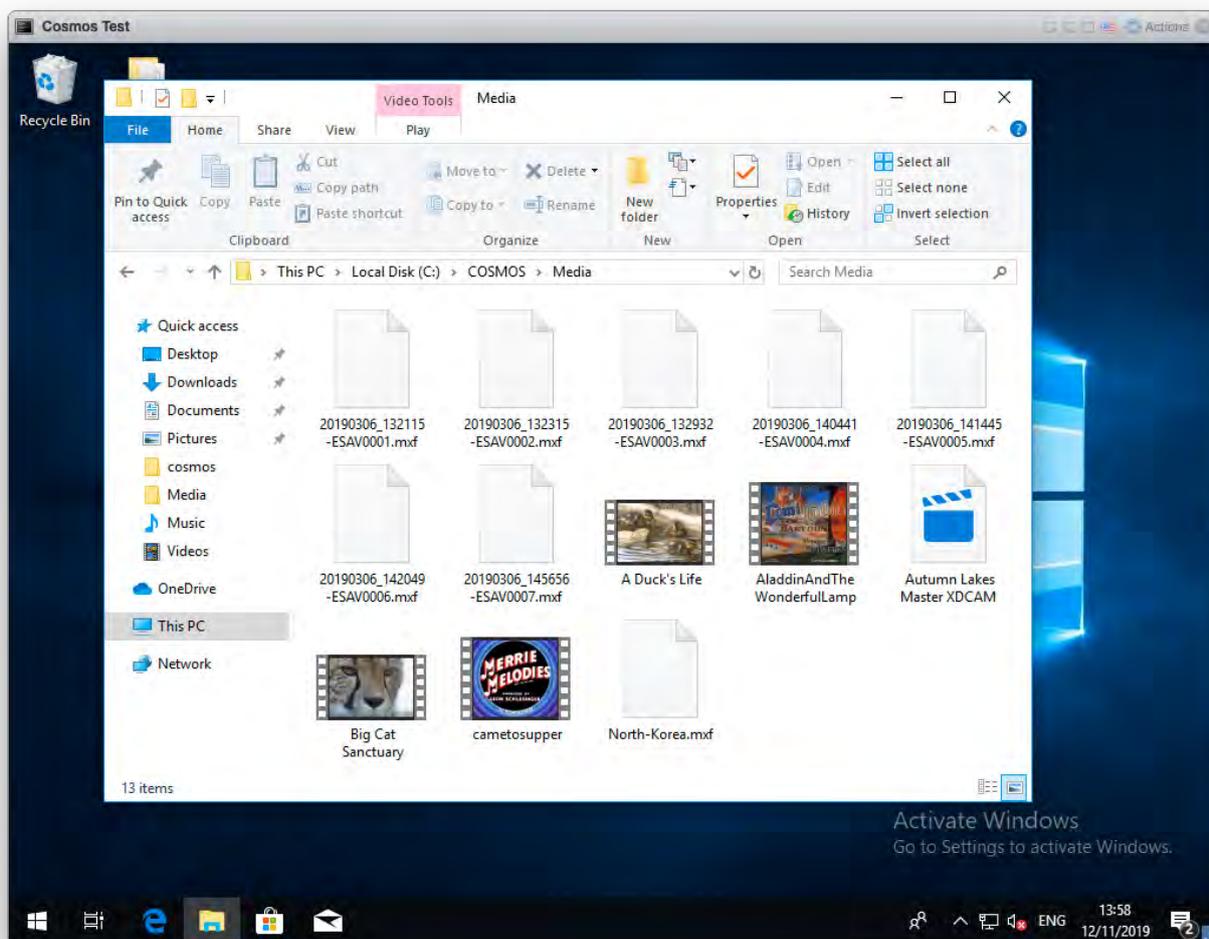
On the Media tab the folders for local media, metadata and graphics can be set.



Below are the corresponding folders on the C drive for this documented example. Please note that these paths may be

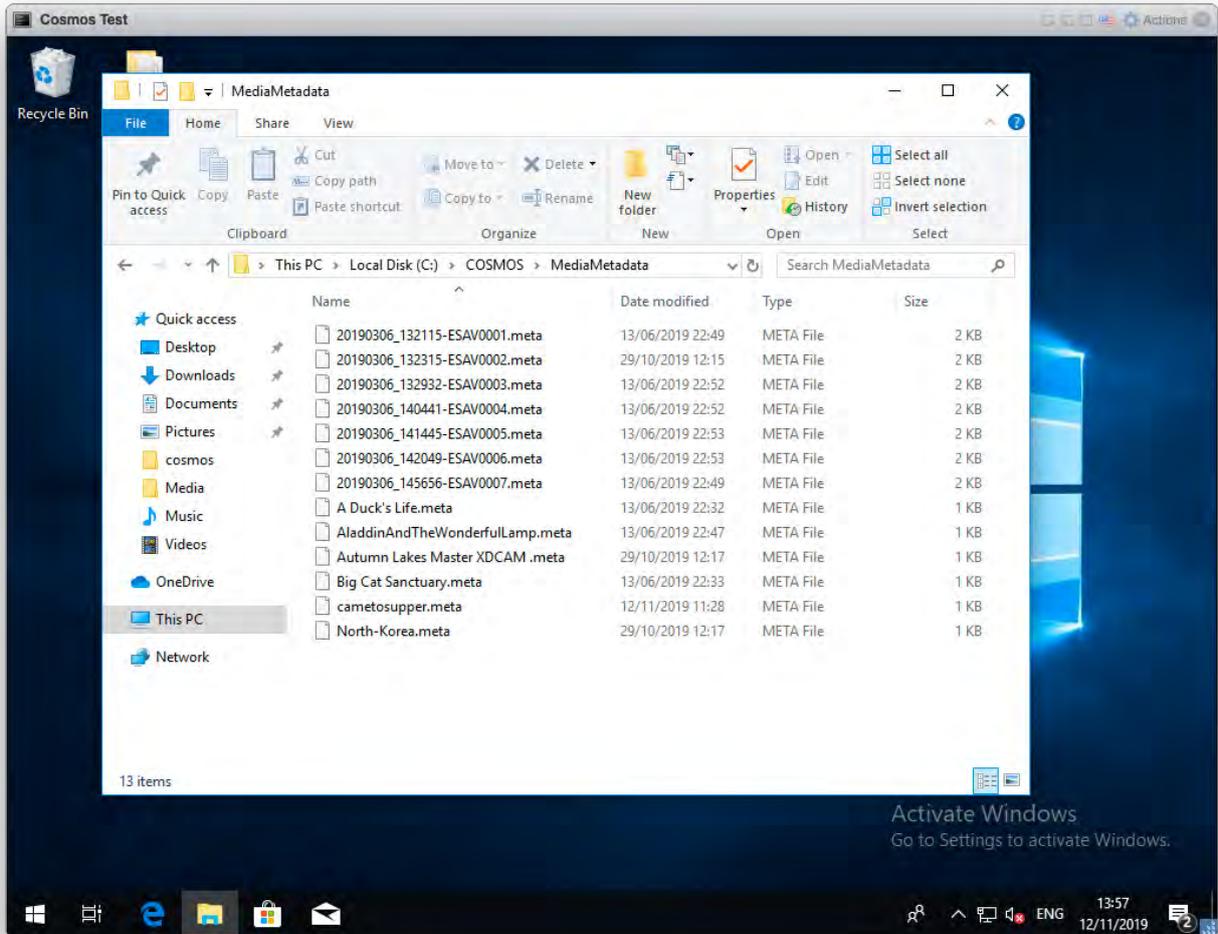
different for your installation.

Media



C:\COSMOS/Media

Metadata



C:\COSMOS/Metadata

Example of a Metadata file.

```
{
  "fileName":"20190306_132115-ESAV0001.mxf",
  "materialId":"20190306_132115-ESAV0001",
  "productionMetadata":
  {
    "duration":
    {
      "duration":"00:00:00:00",
      "frameRate":"ndf25"
    },
    "inTimecode":
    {
      "frameRate":"ndf25",
      "timecode":"00:00:00:00"
    }
  }
}
```

```

    },
    "materialType": "Presentation",
    "prodNo": "",
    "series": "",
    "title": "Orbit",
    "userFields":
      [ "", "", "", "", "", "", "", "", "", "" ],
    "warning": ""
  },
  "technicalMetadata":
  {
    "audioTracks":
    [
      {
        "bits": 24,
        "channels": 1,
        "sampleRate": 48000
      },
      {
        "bits": 24,
        "channels": 1,
        "sampleRate": 48000
      }
    ]
  }

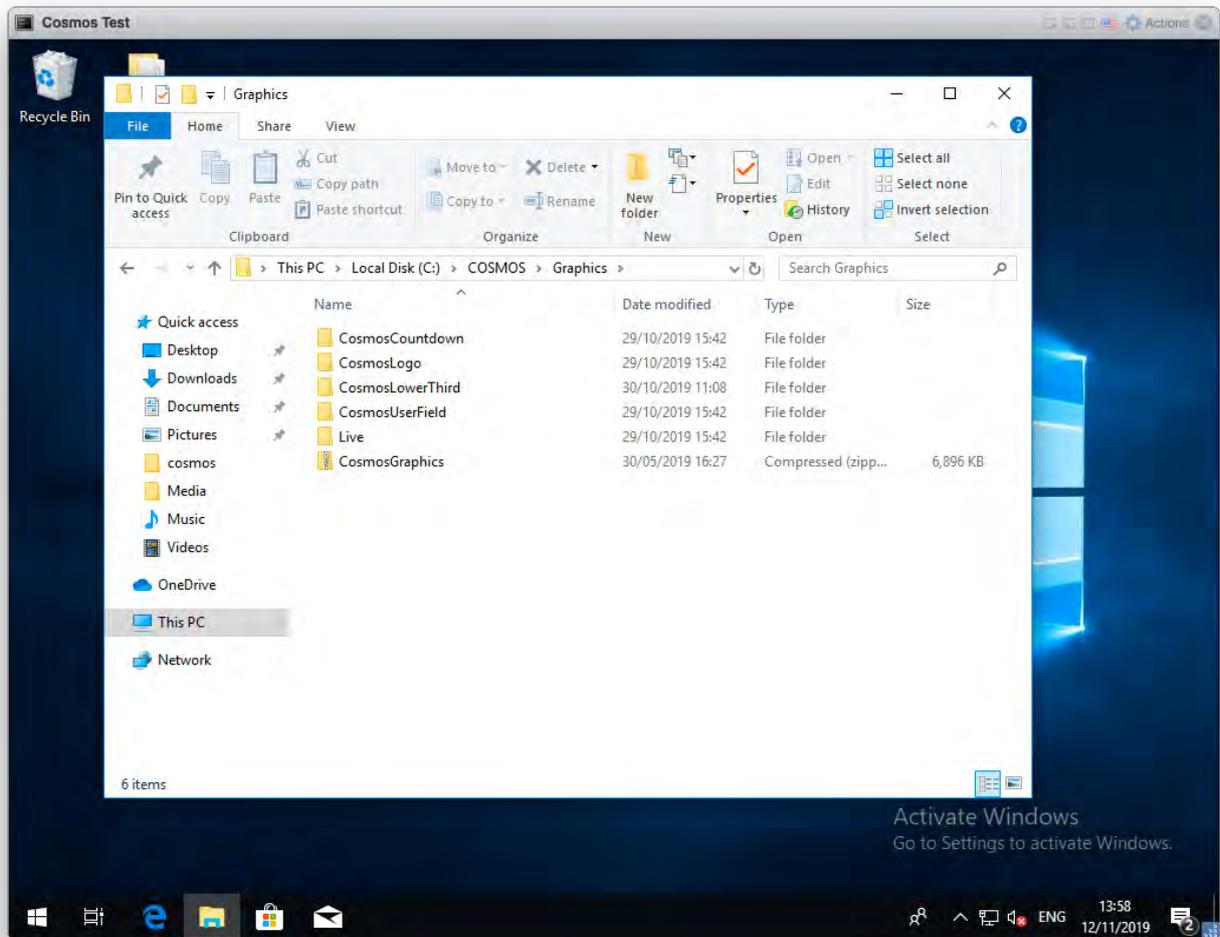
```

```

    {
      "bits":24,
      "channels":1,
      "sampleRate":48000
    },
    {
      "bits":24,
      "channels":1,
      "sampleRate":48000
    }
  ],
  "captured":"2019-06-13T21:49:37",
  "duration":
  {
    "duration":"00:00:46:21",
    "frameRate":"ndf25"
  },
  "format": "",
  "frameRate":"ndf25",
  "inTimecode":
  {
    "frameRate":"ndf25",
    "timecode":"10:00:00:00"
  },
  "videoTrack":
  {
    "aspect":"16:9",
    "height":1080,
    "scanType":"Interlaced",
    "width":1920
  },
  "wrapper":""
}

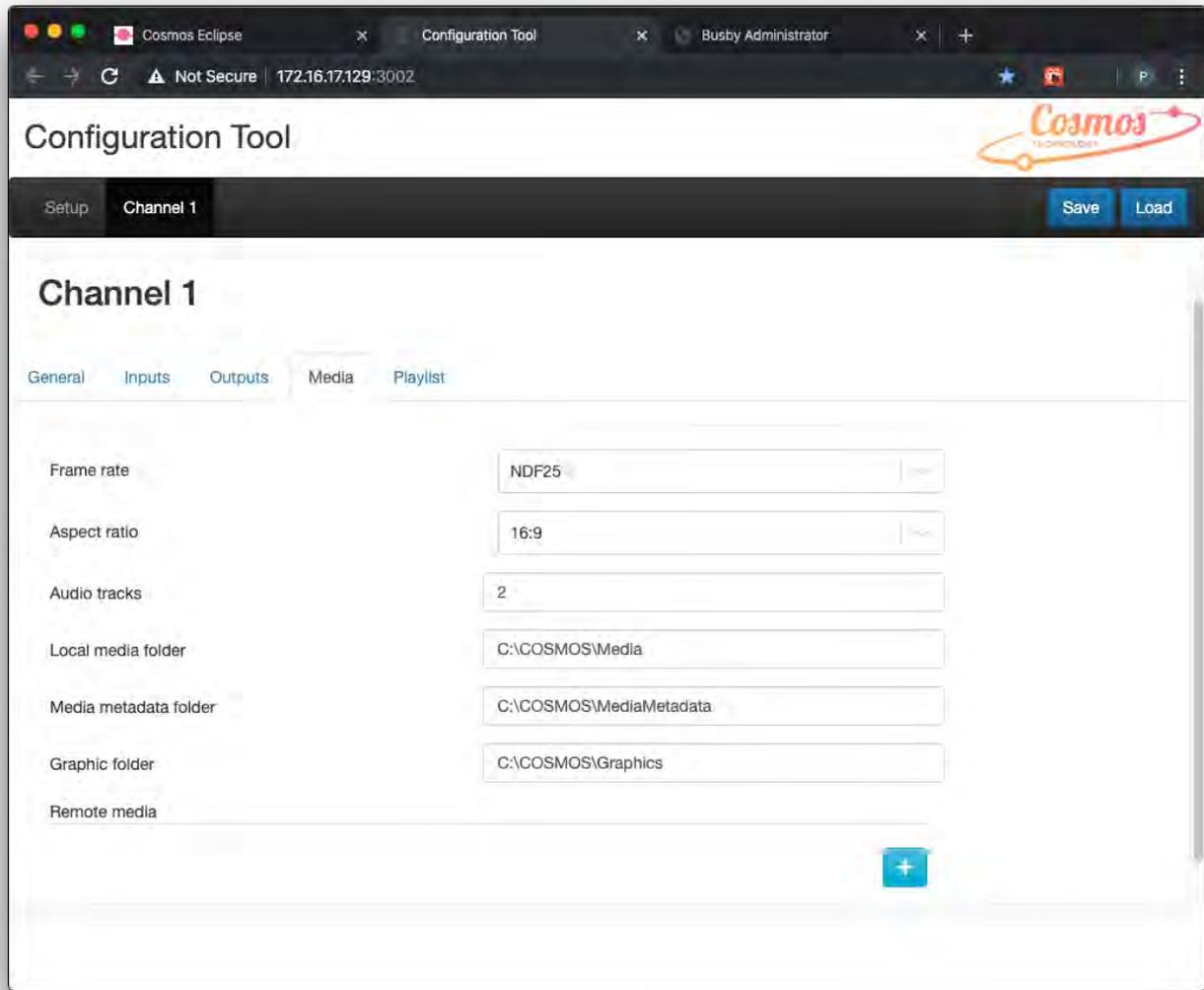
```

Graphics

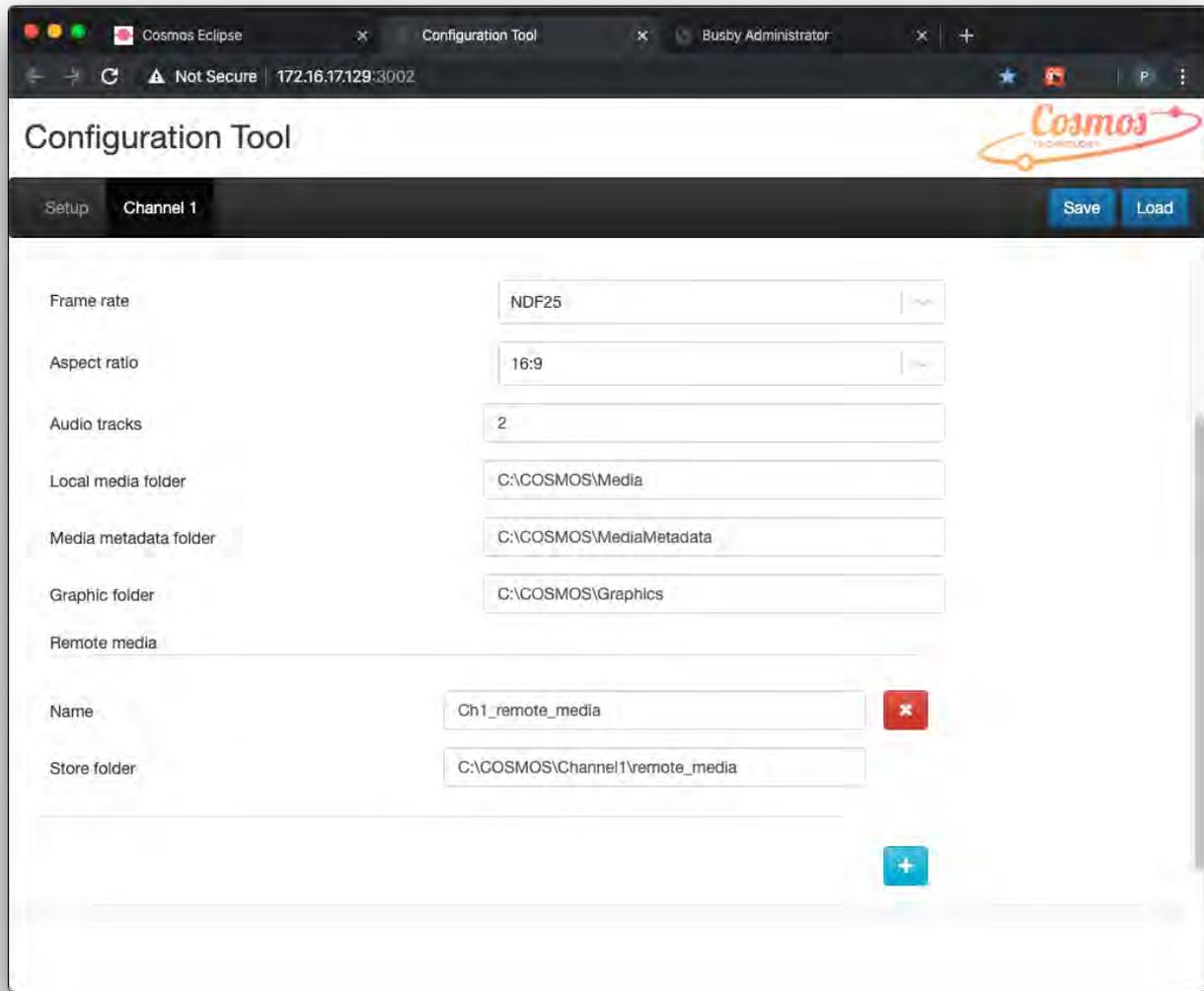


C:\COSMOS\Graphics

The final option on the Media tab is Remote media.



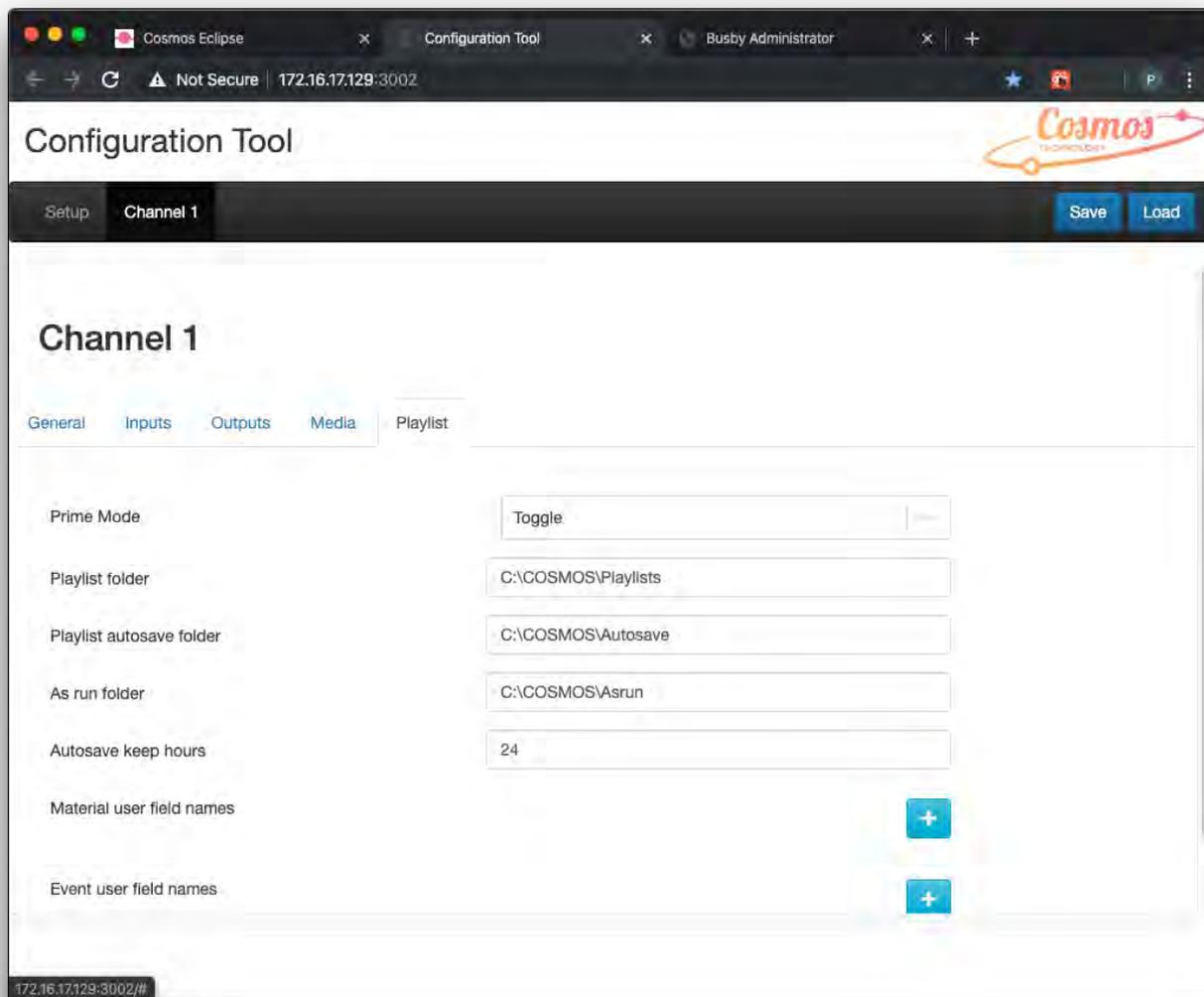
By clicking on the  a new store folder for remote media can be added.



A name and store folder location can be added

If the store has been created in error then clicking on the  will delete the remote media store.

Playlist tab

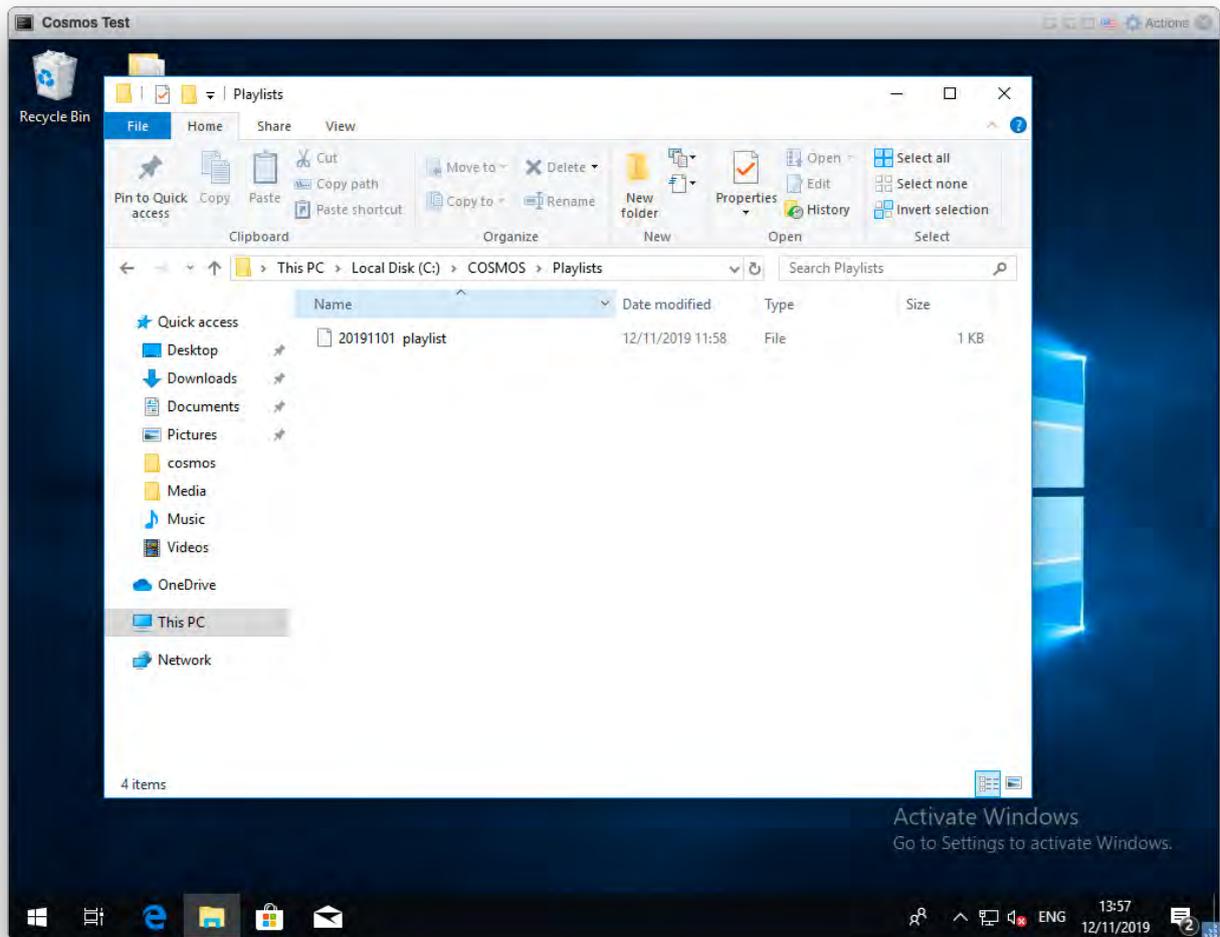


Configuration Tool • Playlist screen for Channel 1

On the Playlist tab the paths to the playlist, autosave and as run folders can be set. Below are the corresponding folders on the C drive for this documented example. Please note that these paths may be different for your installation.

Also on the **Playlist tab** the **Material** and **Event user fields** can be defined. Although these are found at the end of this section they are extremely useful when creating templates for graphics and helping with search queries.

Playlist



C:\COSMOS\Playlist

Example of a Playlist file.

```
{
  "events":
  [
    {
      "duration":
      {
        "duration": "00:00:10:00",
        "frameRate": "ndf25"
      },
      "eventType": "",
      "guid": "9834058b-5b60-412a-ae5-da1edaa92ae5",
      "inTimecode":
      {
        "frameRate": "ndf25",
```

```

    "timecode":"00:00:05:20"
  },
  "materialId":"20190306_132315-ESAV0002",
  "primarySource":"internal",
  "rowType":"primary",
  "scheduledStartTime":
  {
    "date":"2020-01-16",
    "frameRate":"ndf25",
    "time":"11:31:47:23"
  },
  "secondaryEvents":
  [
  ],
  "startMode":"followOn",
  "title":"EXOMARS: Ready for Science",
  "transition":
  {
    "duration":0,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"cut"
  },
  "userFields":
  [
  ]
},
{
  "duration":
  {
    "duration":"00:00:10:00",
    "frameRate":"ndf25"
  },
  "eventType":"","
  "guid":"4f723d9e-ba8f-4233-9826-467cfbf241aa",
  "inTimecode":
  {
    "frameRate":"ndf25",
    "timecode":"10:00:00:00"
  },
  "materialId":"20190306_132115-ESAV0001",
  "primarySource":"internal",

```

```

"rowType":"primary",
"scheduledStartTime":
  {
    "date":"2020-01-16",
    "frameRate":"ndf25",
    "time":"11:32:10:09"
  },
"secondaryEvents":
  [
  ],
"startMode":"followOn",
"title":"Orbit",
"transition":
  {
    "duration":50,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"mix"
  },
"userFields":
  [
  ],
},
{
"duration":
  {
    "duration":"00:00:10:00",
    "frameRate":"ndf25"
  },
"eventType":"","
"guid":"1a38e05f-c172-4444-a4bf-9d3850531daf",
"inTimecode":
  {
    "frameRate":"ndf25",
    "timecode":"00:00:00:00"
  },
"materialId":"20190306_145656-ESAV0007",
"primarySource":"internal",
"rowType":"primary",
"scheduledStartTime":
  {
    "date":"2020-01-16",

```

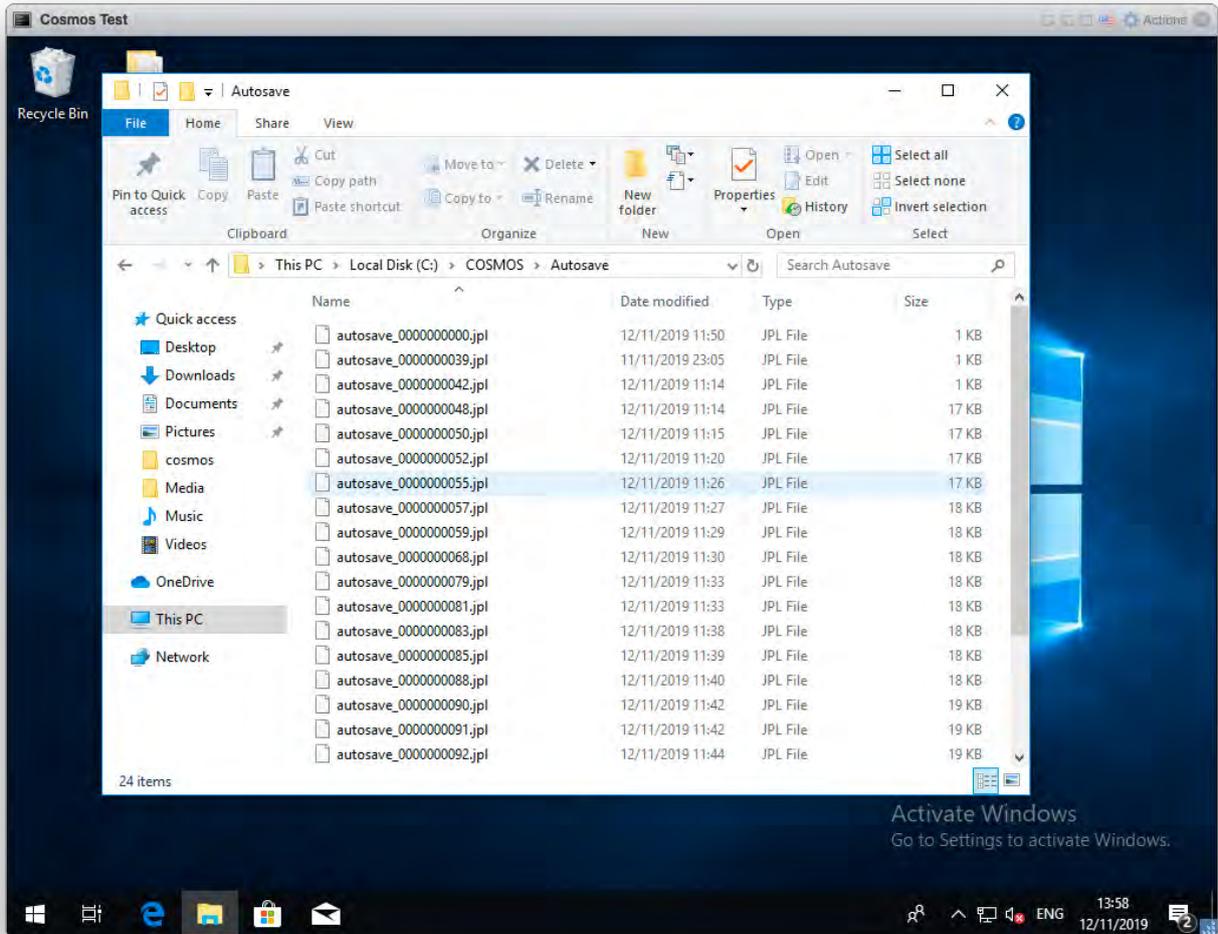
```

    "frameRate":"ndf25",
    "time":"11:32:27:05"
  },
  "secondaryEvents":
  [
  ],
  "startMode":"followOn",
  "title":"TGAS & Gaia DR2",
  "transition":
  {
    "duration":0,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"cut"
  },
  "userFields":
  [
  ],
},
{
  "duration":
  {
    "duration":"00:00:10:00",
    "frameRate":"ndf25"
  },
  "eventType":"",
  "guid":"87d3063e-66b3-4e37-a6bf-47058c8fe5de",
  "inTimecode":
  {
    "frameRate":"ndf25",
    "timecode":"10:00:00:00"
  },
  "materialId":"20190306_141445-ESAV0005",
  "primarySource":"internal",
  "rowType":"primary",
  "scheduledStartTime":
  {
    "date":"2020-01-16",
    "frameRate":"ndf25",
    "time":"11:32:33:21"
  },
  "secondaryEvents":

```

```
[
  ],
  "startMode":"followOn",
  "title":"HORIZONS: Docking and Ingress",
  "transition":
  {
    "duration":0,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"cut"
  },
  "userFields":
  [
  ]
}
]
```

Autosave



C:\COSMOS\Autosave

Example of an Autosave file.

```
{
  "events":
  [
    {
      "duration":
      {
        "duration": "00:00:10:00",
        "frameRate": "ndf25"
      },
      "eventType": "",
      "guid": "3dc3098c-6ecc-4b80-abe9-c479e1270321",
      "inTimecode":
      {
        "frameRate": "ndf25",
```

```

        "timecode":"00:00:05:20"
    },
    "materialId":"20190306_132315-ESAV0002",
    "primarySource":"internal",
    "rowType":"primary",
    "scheduledStartTime":
    {
        "date":"2020-01-16",
        "frameRate":"ndf25",
        "time":"11:31:47:23"
    },
    "secondaryEvents":
    [
    ],
    "startMode":"followOn",
    "title":"EXOMARS: Ready for Science",
    "transition":
    {
        "duration":0,
        "lagAudio":false,
        "lagDuration":0,
        "leadAudio":false,
        "leadDuration":0,
        "transitionType":"cut"
    },
    "userFields":
    [
    ]
},
{
    "duration":
    {
        "duration":"00:00:10:00",
        "frameRate":"ndf25"
    },
    "eventType":"","
    "guid":"1bad56d6-cff9-42ac-9d5c-33be3e7871c7",
    "inTimecode":
    {
        "frameRate":"ndf25",
        "timecode":"10:00:00:00"
    },
    "materialId":"20190306_132115-ESAV0001",
    "primarySource":"internal",

```

```

"rowType":"primary",
"scheduledStartTime":
  {
    "date":"2020-01-16",
    "frameRate":"ndf25",
    "time":"11:32:10:09"
  },
"secondaryEvents":
  [
  ],
"startMode":"followOn",
"title":"Orbit",
"transition":
  {
    "duration":50,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"mix"
  },
"userFields":
  [
  ]
},
{
  "duration":
    {
      "duration":"00:00:10:00",
      "frameRate":"ndf25"
    },
  "eventType":"","
  "guid":"a38f1912-d467-41cb-ab15-e8f5d909886d",
  "inTimecode":
    {
      "frameRate":"ndf25",
      "timecode":"00:00:00:00"
    },
  "materialId":"20190306_145656-ESAV0007",
  "primarySource":"internal",
  "rowType":"primary",
  "scheduledStartTime":
    {
      "date":"2020-01-16",

```

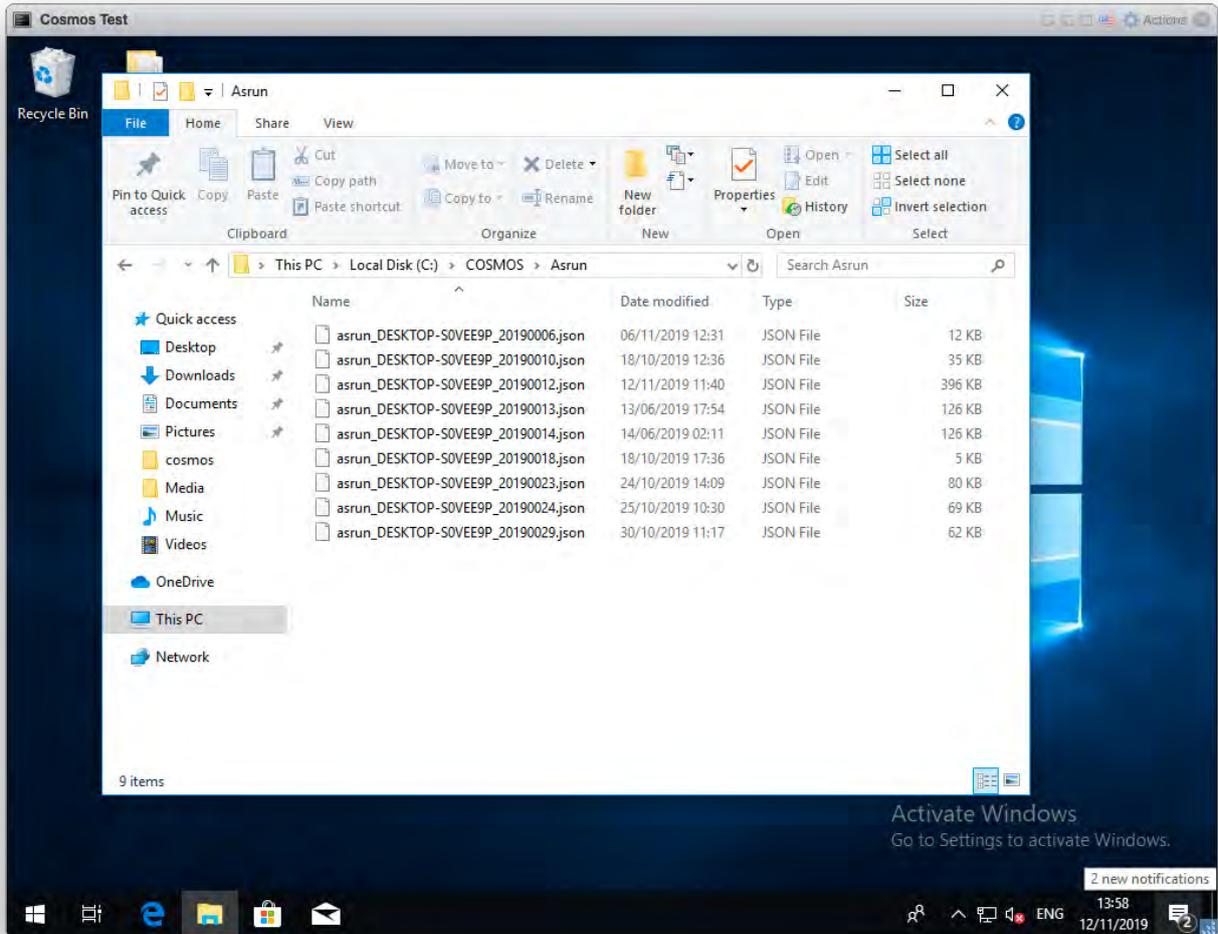
```

        "frameRate":"ndf25",
        "time":"11:32:27:05"
    },
    "secondaryEvents":
    [
    ],
    "startMode":"followOn",
    "title":"TGAS & Gaia DR2",
    "transition":
    {
        "duration":0,
        "lagAudio":false,
        "lagDuration":0,
        "leadAudio":false,
        "leadDuration":0,
        "transitionType":"cut"
    },
    "userFields":
    [
    ]
},
{
    "duration":
    {
        "duration":"00:00:10:00",
        "frameRate":"ndf25"
    },
    "eventType":"",
    "guid":"70c1d337-3cf1-4ea2-9cba-689c4feb5d12",
    "inTimecode":
    {
        "frameRate":"ndf25",
        "timecode":"10:00:00:00"
    },
    "materialId":"20190306_141445-ESAV0005",
    "primarySource":"internal",
    "rowType":"primary",
    "scheduledStartTime":
    {
        "date":"2020-01-16",
        "frameRate":"ndf25",
        "time":"11:32:33:21"
    },
    "secondaryEvents":

```

```
[
  ],
  "startMode":"followOn",
  "title":"HORIZONS: Docking and Ingress",
  "transition":
  {
    "duration":0,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"cut"
  },
  "userFields":
  [
  ]
}
],
"lastFile":"C:\\COSMOS\\Playlists\\20200116_playlist 3",
"modified":false
}
```

As Run



C:COSMOS/Asrun

Example of an As Run file.

```

{
  "events":
  [
    {
      "eventData":
      {
        "duration":
        {
          "duration": "00:00:52:05",
          "frameRate": "ndf25"
        },
        "eventType": ""
      }
    }
  ]
}

```

```

"guid":"d5c882dd-5d28-4877-b528-ac7b90e7e495",
"inTimecode":
  {
    "frameRate":"ndf25",
    "timecode":"00:00:00:00"
  },
"materialId":"20190306_145656-ESAV0007",
"primarySource":"internal",
"rowType":"primary",
"scheduledStartTime":
  {
    "date":"2020-01-31",
    "frameRate":"ndf25",
    "time":"11:47:45:00"
  },
"secondaryEvents":
  [
  ],
"startMode":"followOn",
"title":"TGAS & Gaia DR2",
"transition":
  {
    "duration":0,
    "lagAudio":false,
    "lagDuration":0,
    "leadAudio":false,
    "leadDuration":0,
    "transitionType":"cut"
  },
"userFields":
  [
  ],
},
"eventStatus":
  {
    "primaryMediaStatus":
      {
        "mediaState":"ready"
      },
    "primaryPlayerState":"Cued"
  },
"eventTiming":
  {
    "calculatedDuration":

```

```

    {
      "counter":
        {
          "mode":"stopped",
          "reference":
            {
              "date":"2020-01-31",
              "frameRate":"ndf25",
              "time":"11:48:30:10"
            }
          },
      "duration":"00:00:52:05",
      "frameRate":"ndf25"
    },
    "calculatedStartTime":
    {
      "counter":
        {
          "mode":"stopped",
          "reference":
            {
              "date":"2020-01-31",
              "frameRate":"ndf25",
              "time":"11:48:30:10"
            }
          },
      "date":"2020-01-31",
      "frameRate":"ndf25",
      "time":"11:49:12:24"
    }
  }
}
]
}

```

User defined fields

Material user field

Configuration Tool



Setup Channel 1 Channel 2 Save Load

Channel 1

General Inputs Outputs Media Playlist

Prime Mode Toggle

Playlist folder C:\COSMOS\Playlists

Playlist autosave folder C:\COSMOS\Autosave

As run folder C:\COSMOS\Run

Autosave keep hours 24

Material user field names

Album	<input type="button" value="x"/>
Song	<input type="button" value="x"/>
Artist	<input type="button" value="x"/>
	<input type="button" value="+"/>
	<input type="button" value="+"/>

Event user field names

You can add multiple Material user field names by clicking the . The example shown, with added fields of Album, Song and Artist would be useful for Music channel.

If the field has been created in error then clicking on the will delete it.

Click on the button in the top right of the screen to save your user defined field details.

Once you have restarted the channel engine - details of how to do this are [here](#) - you will then see the three fields on the **Edit Clip** panel.

The screenshot displays the Cosmos software interface. At the top, there are navigation buttons for 'Load', 'Save', 'Shotbox', and 'Follow'. A table lists several events with columns for Start time, Secondary events, Title, Duration, Transition, Source, Material ID, and Status. The 'GAIA Second Data Release' event is highlighted in blue.

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Sci...	00:00:10:00	T	internal	20190306_132315-ES...	
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50X	internal	20190306_132115-ES...	
16-Jan-20 11:32:07:23		Preparing CHEOPS	00:03:09:18	T	internal	20190306_132932-ES...	
16-Jan-20 11:35:17:16		GAIA Second Data Release	00:03:32:17	T	internal	20190306_142049-ES...	
16-Jan-20 11:36:50:08		TGAS & Gaia DR2	00:00:52:05	T	internal	20190306_145656-ES...	
16-Jan-20 11:39:42:13		HORIZONS: Docking and...	00:00:10:00	T	internal	20190306_141445-ES...	

Below the table, the 'Channel 1' configuration panel is visible, showing details for the selected 'GAIA Second Data Release' event. The 'Event' section includes fields for Title, Material ID, and Source. The 'Timing' section includes Start mode, Start date, Start time, In-timecode, and Duration. The 'Transition' section includes Transition type, Transition duration, Lead duration, and Lag duration. The 'User Fields' section includes Team 1 name, Team 2 name, and Team 1 score. At the bottom of the panel, there are buttons for 'Secondary events', 'Add logo', 'Add graphic', and 'Add SCTE-35'.

On the right side of the interface, there is a color calibration chart and a 'Cosmos' logo. Below the chart, there is a 'Row type' dropdown set to 'primary' and a 'Scheduled start' field set to '18-Feb-20 10:51:20:04'. Other fields include 'Start mode' (followOn), 'Title' (GAIA Second Data Release), 'Primary source' (internal), 'Material ID' (20190306_142049-ESAVO...), 'Duration' (00:03:32:17), 'In-timecode' (10:00:00:00), 'Transition' (0), 'Event type', 'User fields', and 'Material type' (Programme).

The bottom status bar shows '20200116_playlist 3 (Modified)' on the left and '2020-02-18 17:14:23:04' on the right.

Event user field

Configuration Tool



Setup Channel 1 Channel 2 Save Load

Channel 1

General Inputs Outputs Media Playlist

Prime Mode Toggle

Playlist folder C:\COSMOS\Playlists

Playlist autosave folder C:\COSMOS\Autosave

As run folder C:\COSMOS\Run

Autosave keep hours 24

Material user field names

Album

Song

Artist

Event user field names

Team 1 name

Team 2 name

Team 1 score

Team 2 score

You can add multiple Event user field names by clicking the . The example shown, with added fields of Team 1 name, Team 2 name, Team 1 score and Team 2 score would be useful for a Sports channel and the display of team and score in an event graphic.

If the field has been created in error then clicking on the will delete it.

Click on the button in the top right of the screen to save your user defined field details.

Again, you will have to restart the channel engine to view the four fields on the **Edit** panel.

Load
Shortbox
Save
Follow

Enable

Start time	Secondary events	Title	Duration	Transition	Source	Material ID	Status
16-Jan-20 11:31:47:23		EXOMARS: Ready for Sci...	00:00:10:00	T	Internal	20190306_132315-ES...	✔
16-Jan-20 11:31:57:23		Orbit	00:00:10:00	50° X	Internal	20190306_132115-ES...	✔
16-Jan-20 11:32:07:23		Preparing CHEOPS	00:03:09:18	T	Internal	20190306_132932-ES...	✔
16-Jan-20 11:35:17:16		GAIA Second Data Release	00:03:32:17	T	Internal	20190306_142049-ES...	✔
16-Jan-20 11:38:50:08		TGAS & Gaia DR2	00:00:52:05	T	Internal	20190306_145656-ES...	✔
16-Jan-20 11:39:42:13		HORIZONS: Docking and...	00:00:10:00	T	Internal	20190306_141445-ES...	✔

Channel 1 Update 'GAIA Second Data Release' + Add after 'GAIA Second Data Release'

Event

Title: GAIA Second Data Release | Material ID: 20190306_142049-ESAV0006 | Source: Internal

Timing

Start mode: Follow On | Start date: 18-Feb-20 | Start time: 10:51:20:04 | In-timecode: 18:00:00:00 | Duration: 00:03:32:17

Transition

Transition type: Cut | Transition duration: 0 | Lead duration: 0 | Lag duration: 0

User Fields

Team 1 name: | Team 2 name: | Team 3 name: | Team 1 score: | Team 2 score: |

Secondary events: Add logo Add graphic Add SCTE-35

Row type: primary

Scheduled start: 18-Feb-20 10:51:20:04

Start mode: followOn

Title: GAIA Second Data Release

Primary source: Internal

Material ID: 20190306_142049-ESAV0...

Duration: 00:03:32:17

In-timecode: 10:00:00:00

Transition: 0

Event type:

User fields:

Material type: Programme

20200116_playlist 3 (Modified)
2020-02-18 17:14:23-04

Cosmos Administrator

Sometimes you may need to restart the Cosmos application or modify COSMOS folders on the host PCs C drive. This part of the software should only be accessed by users who have a thorough understanding of the Cosmos system.

Whilst the Cosmos application is viewed on the url and port number: «PlayboxWebAddress»:3000

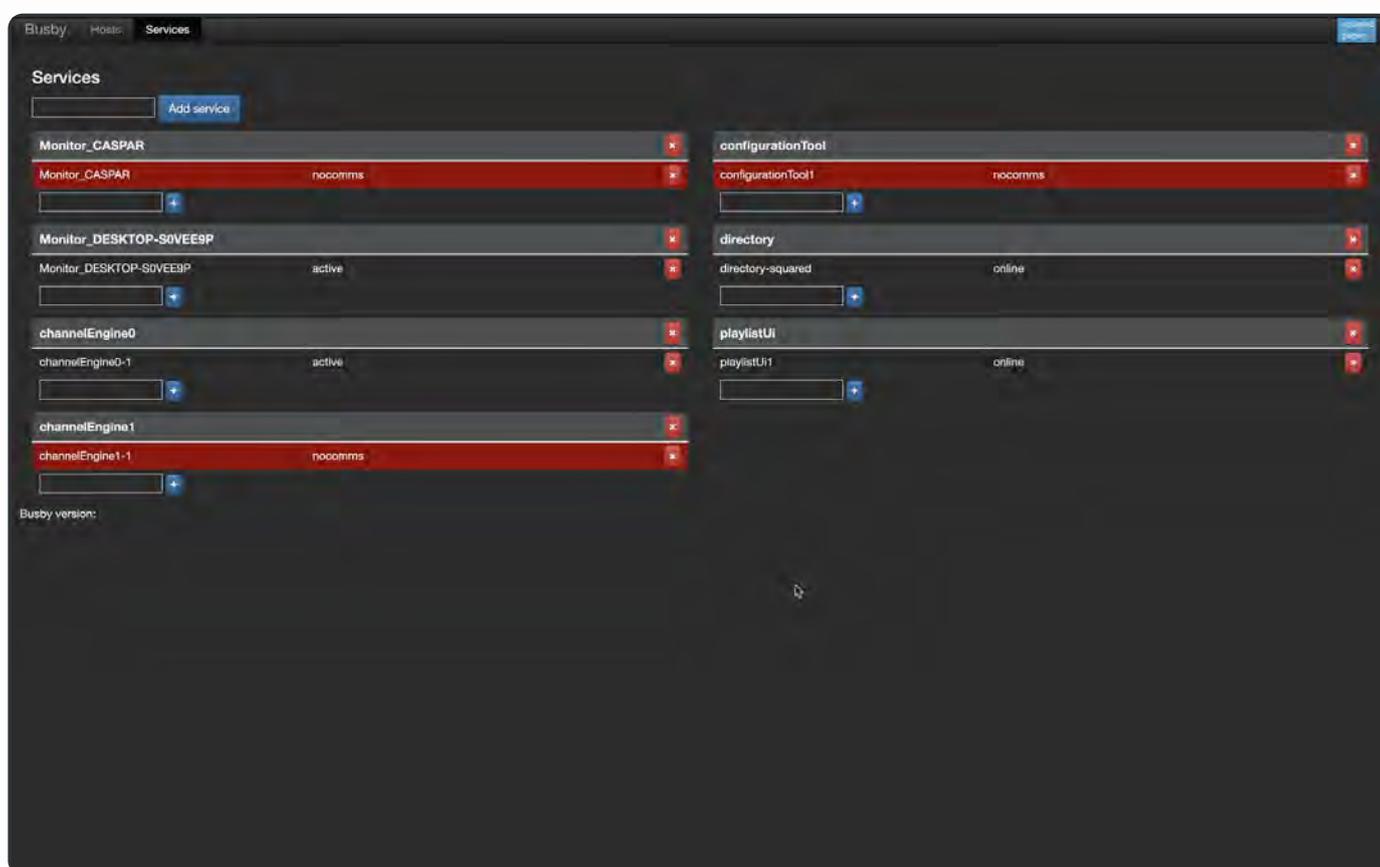
The configuration tool is found on «PlayboxWebAddress»:3002

The Administration window can be viewed by typing «PlayboxWebAddress»:5000 into the address bar.

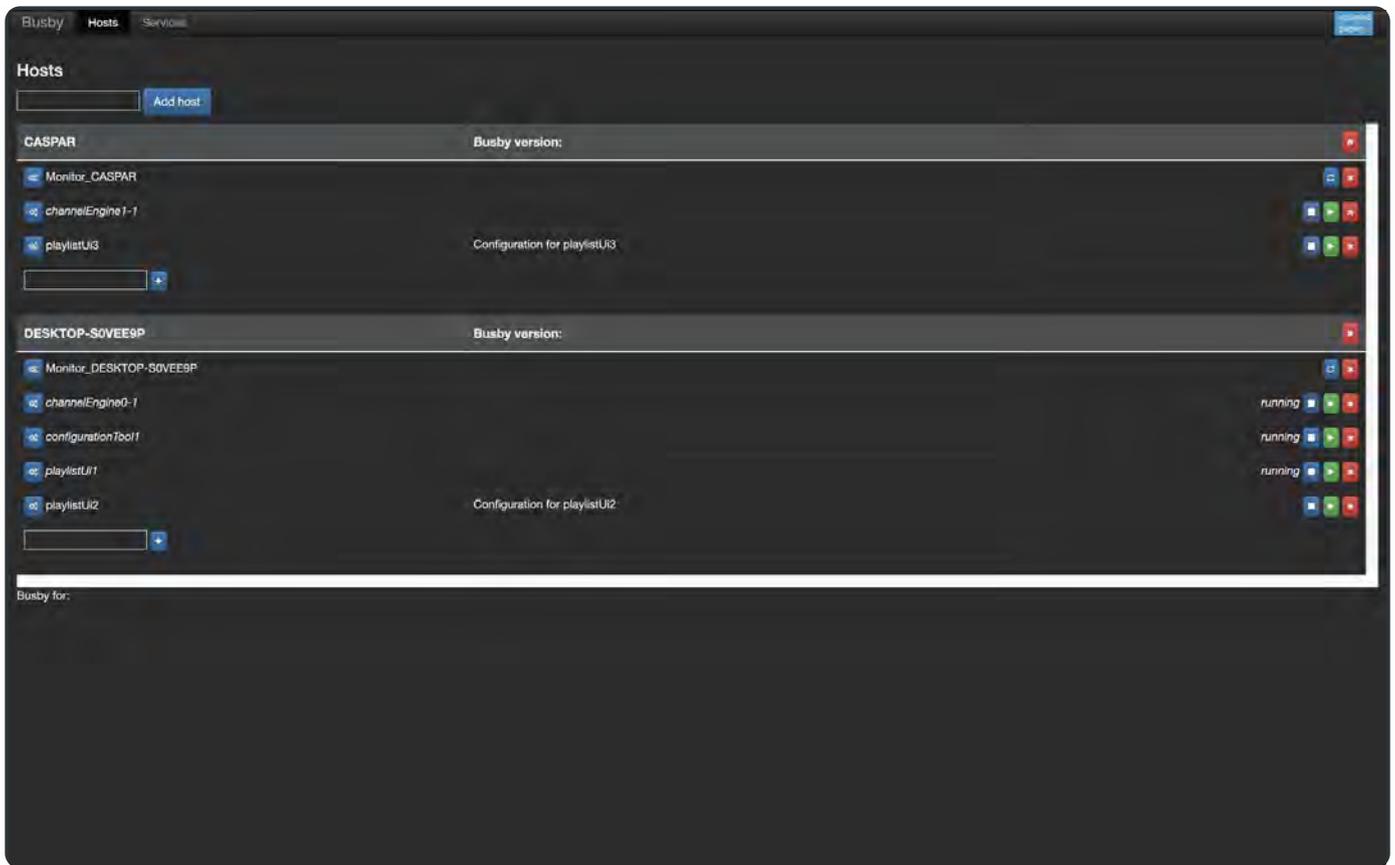
Restarting a channel in Busby Administrator

If a channel has become unresponsive or you have created or updated the event or material user fields then you will need to **restart** Cosmos.

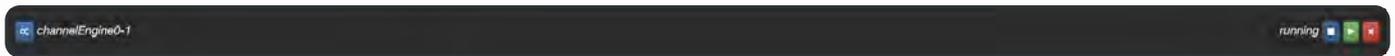
Open the Busby Administrator by typing «PlayboxWebAddress»:5000 into the address bar. The window will open and display the **Services** tab.



Select the **Hosts** tab at the top of screen.



Each channel has a corresponding engine. For example, Channel 1 has an engine called *channelEngine0-1*.



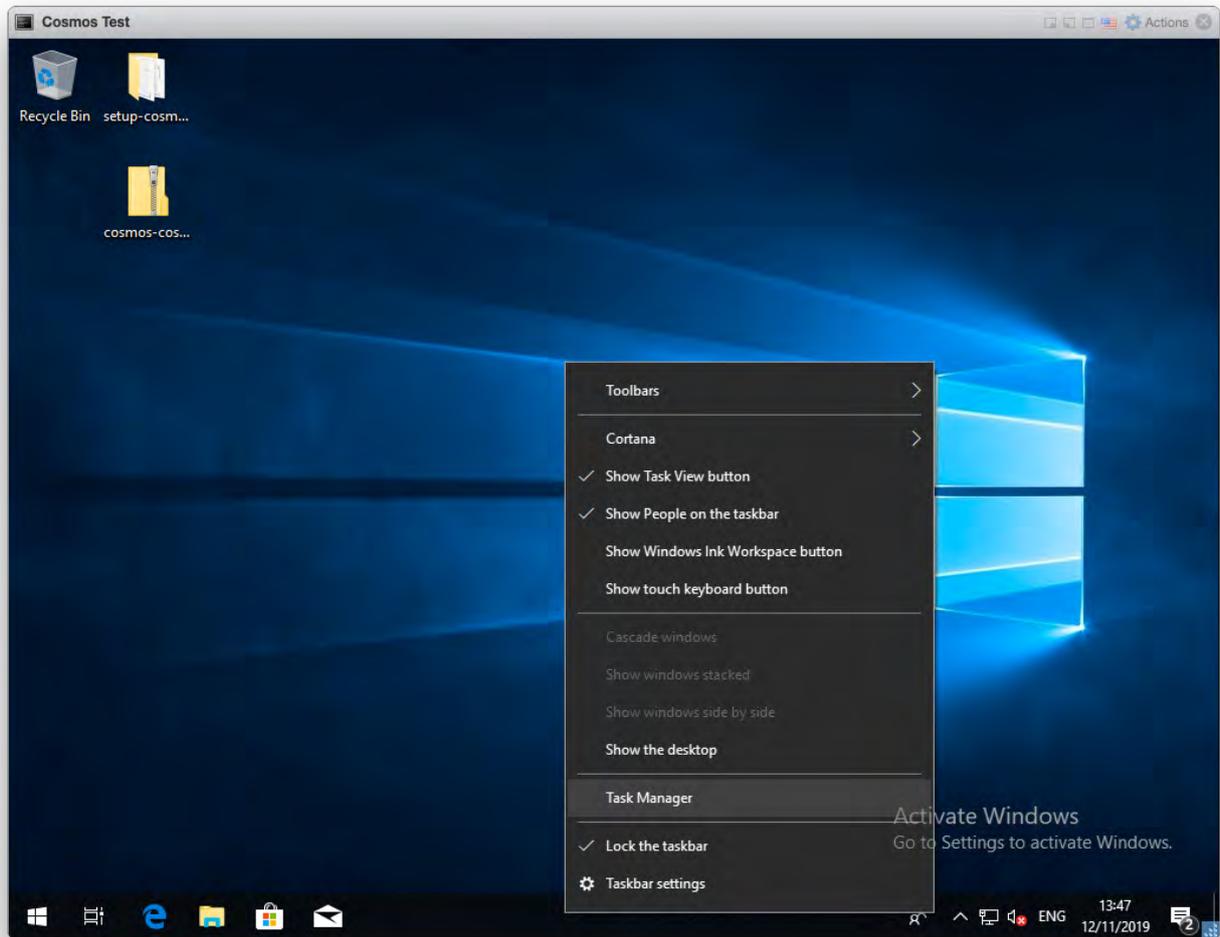
On the right side of the window, click the stop  and after a few seconds a message will appear that the channel is *not running*. Then click the play  to restart the channel. The *running* message will appear after a couple of seconds.

Return to the Cosmos window and continue using the application. You will need to refresh the browser window to see any changes to the user fields.

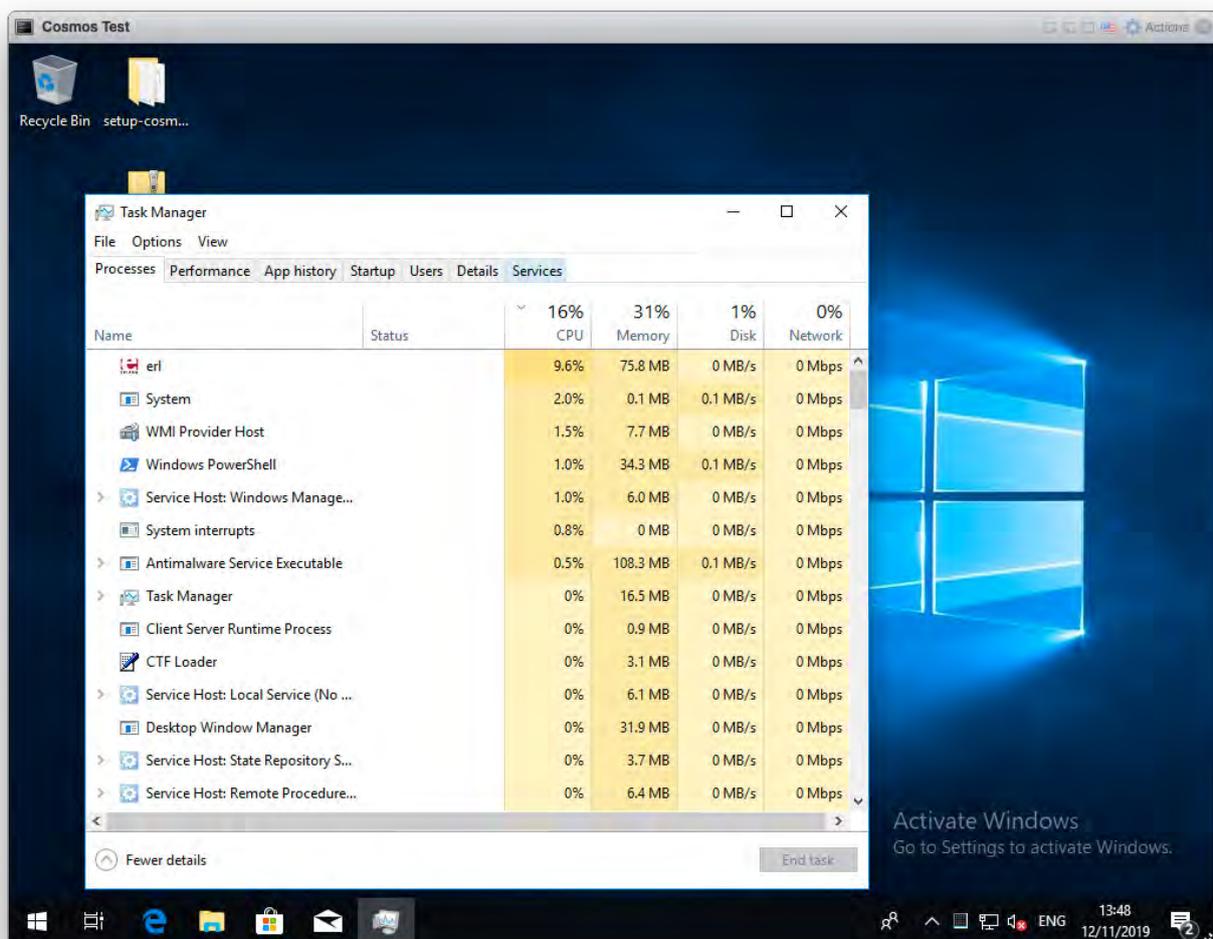
Restarting Cosmos on the host operating system

Sometimes it is beneficial to restart the entire application. Cosmos runs as a series of components in the developer's Busby platform and it is this platform that will be restarted. Please note that the following procedure should only be attempted by a technically proficient individual who has administrator access to the PC where Cosmos is running.

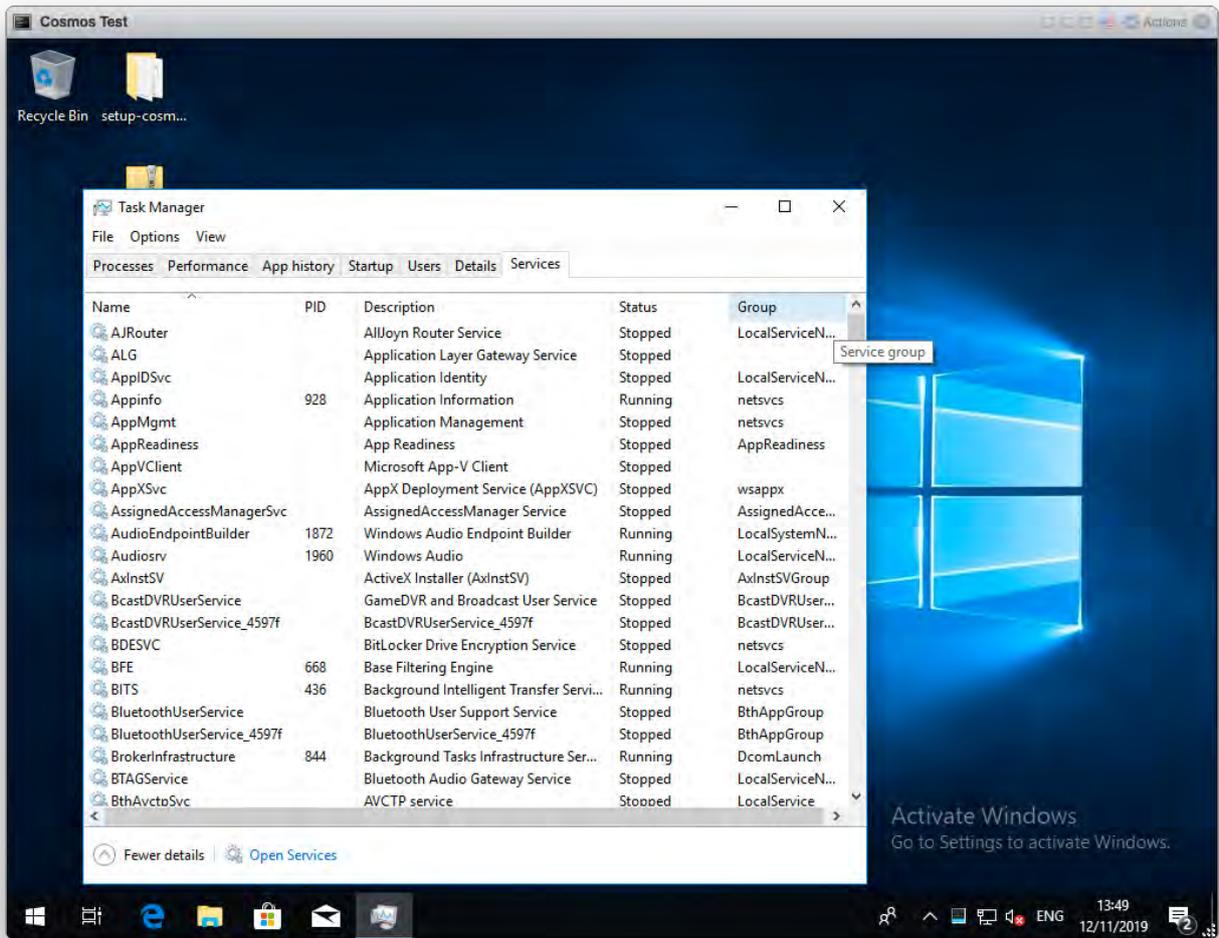
Open the Task Manager on the PC by right clicking on the Taskbar.

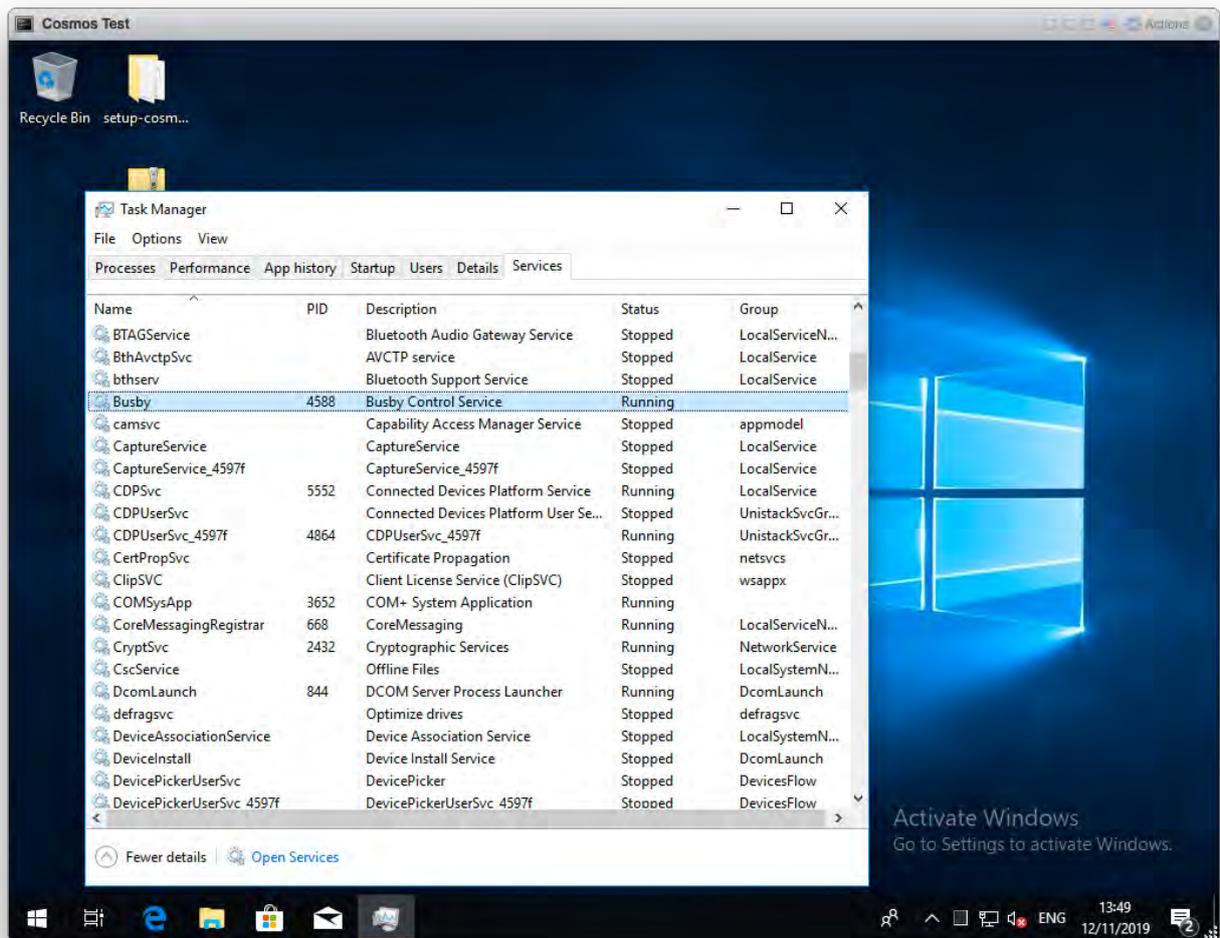


Click on the Services tab.

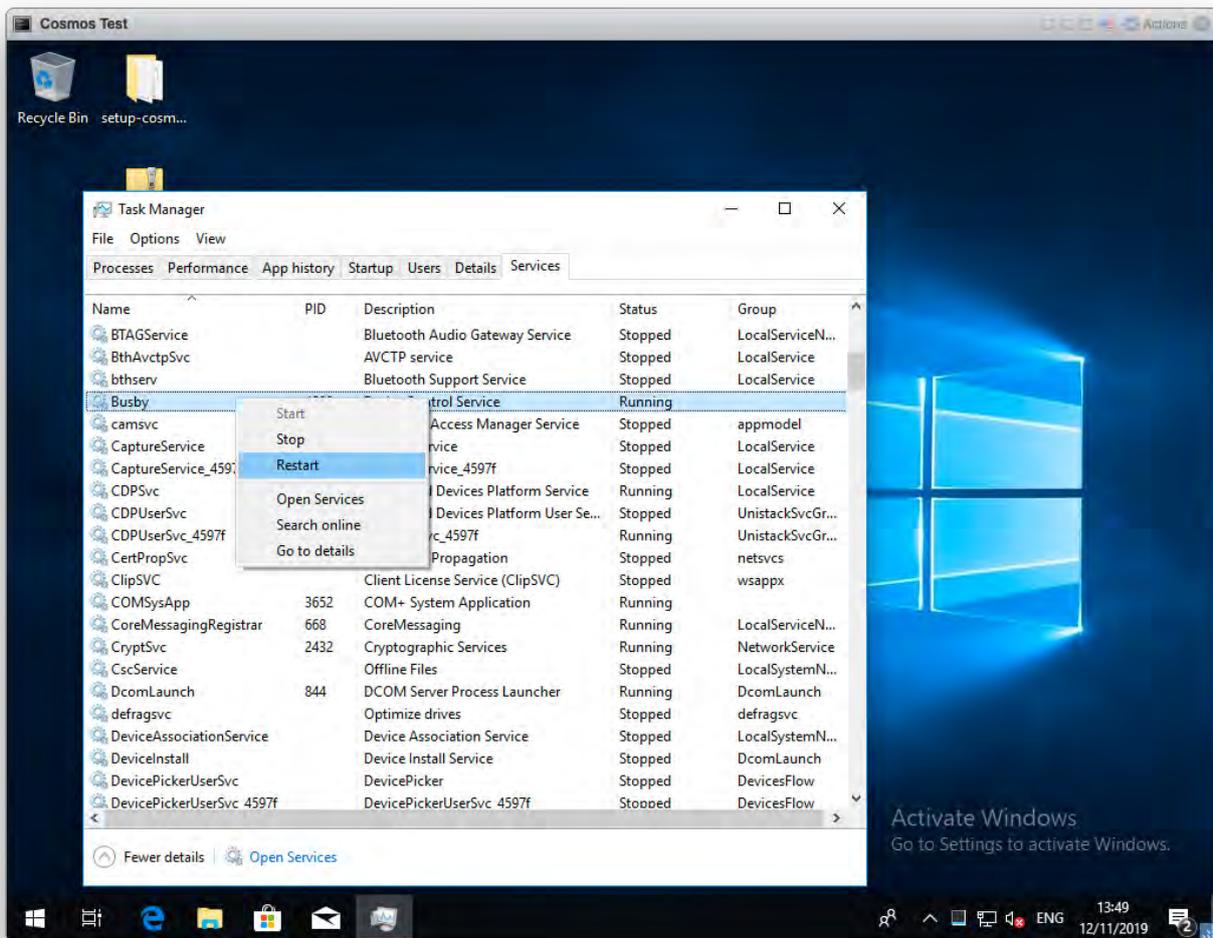


Then scroll down through the list of running services until you reach Busby.





Right click and select restart. The Busby platform will restart and be up and running in a few seconds.

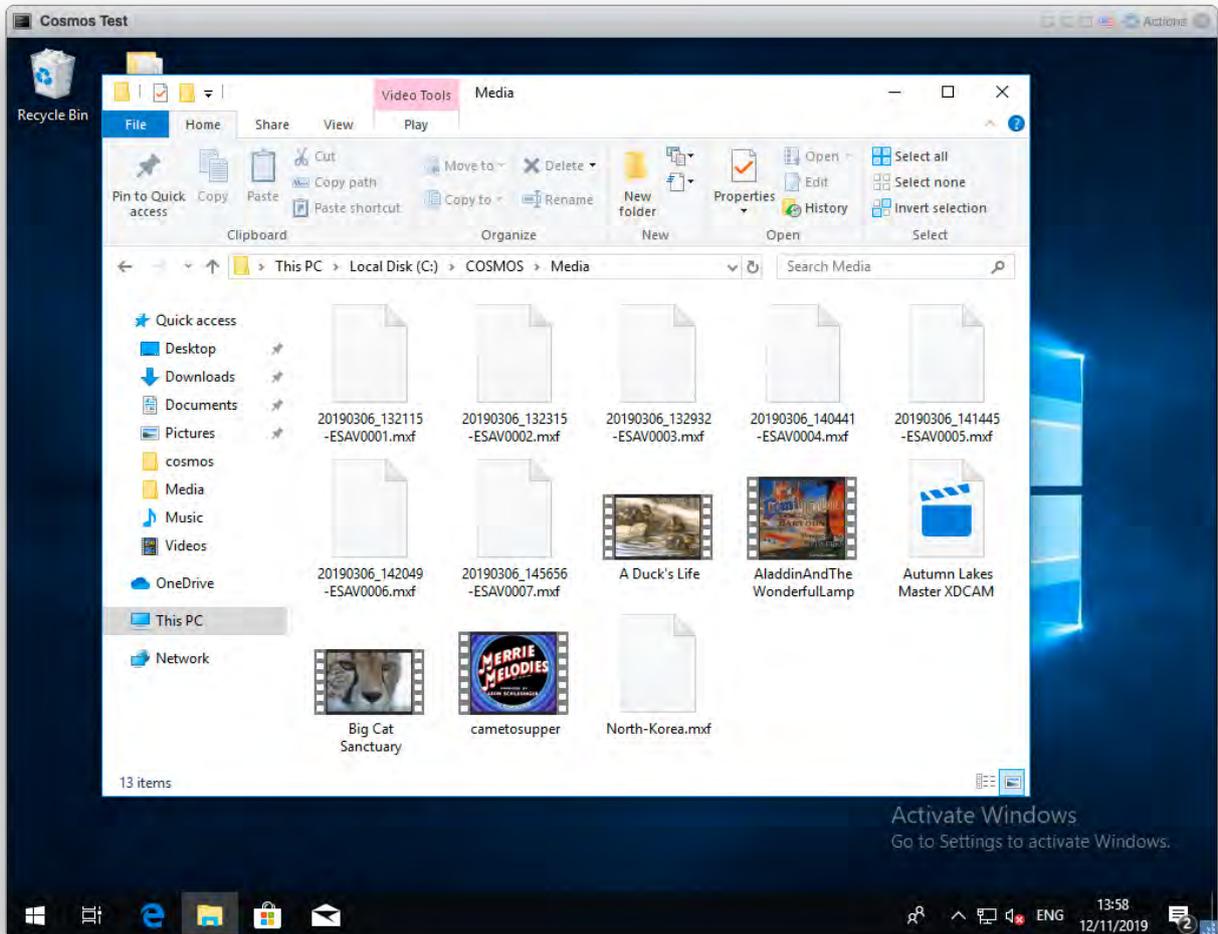


COSMOS on the C Drive of the host hardware

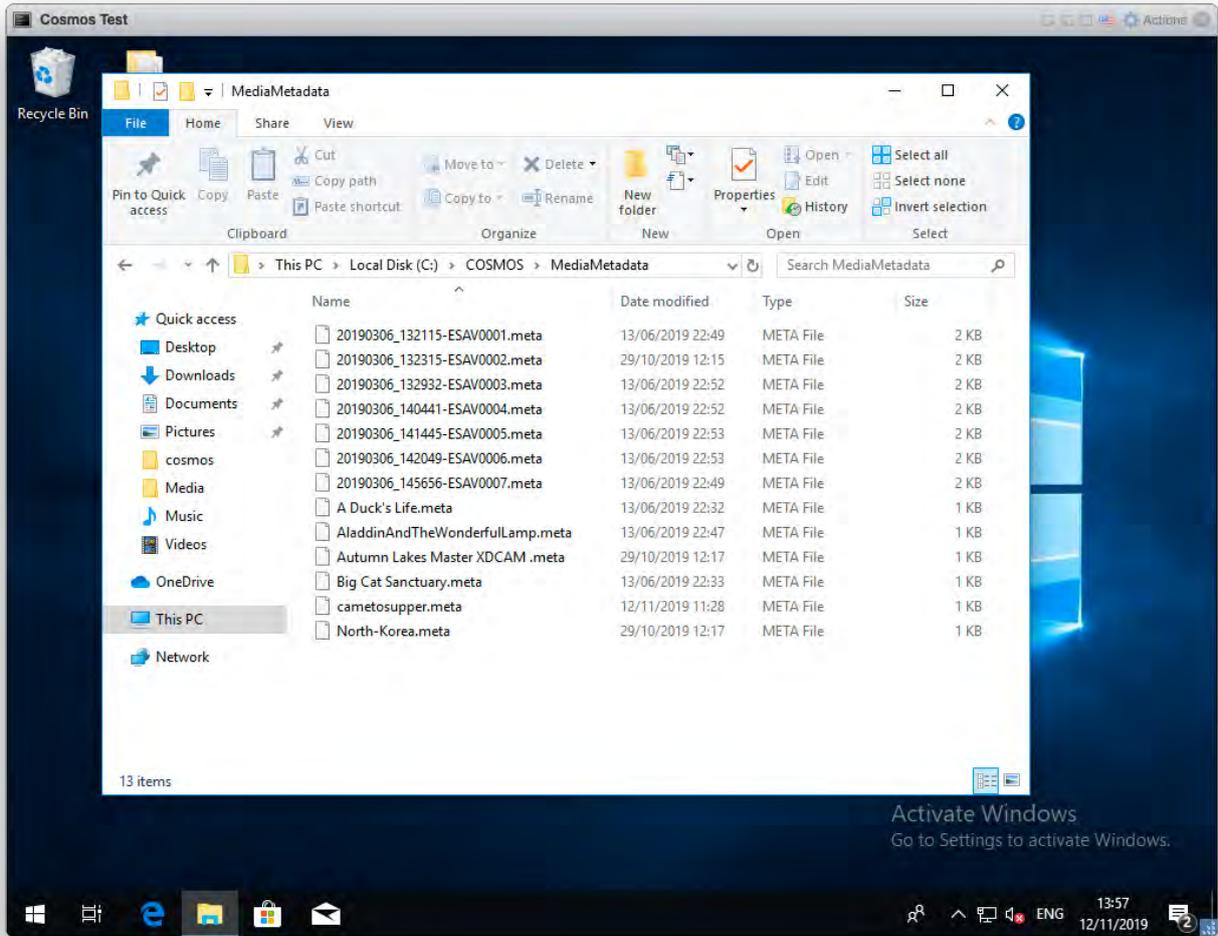
In the Configuration Tool, paths to several locations on the PCs C drive can be set.

On the Media tab the media, metadata and graphics folders can be set.

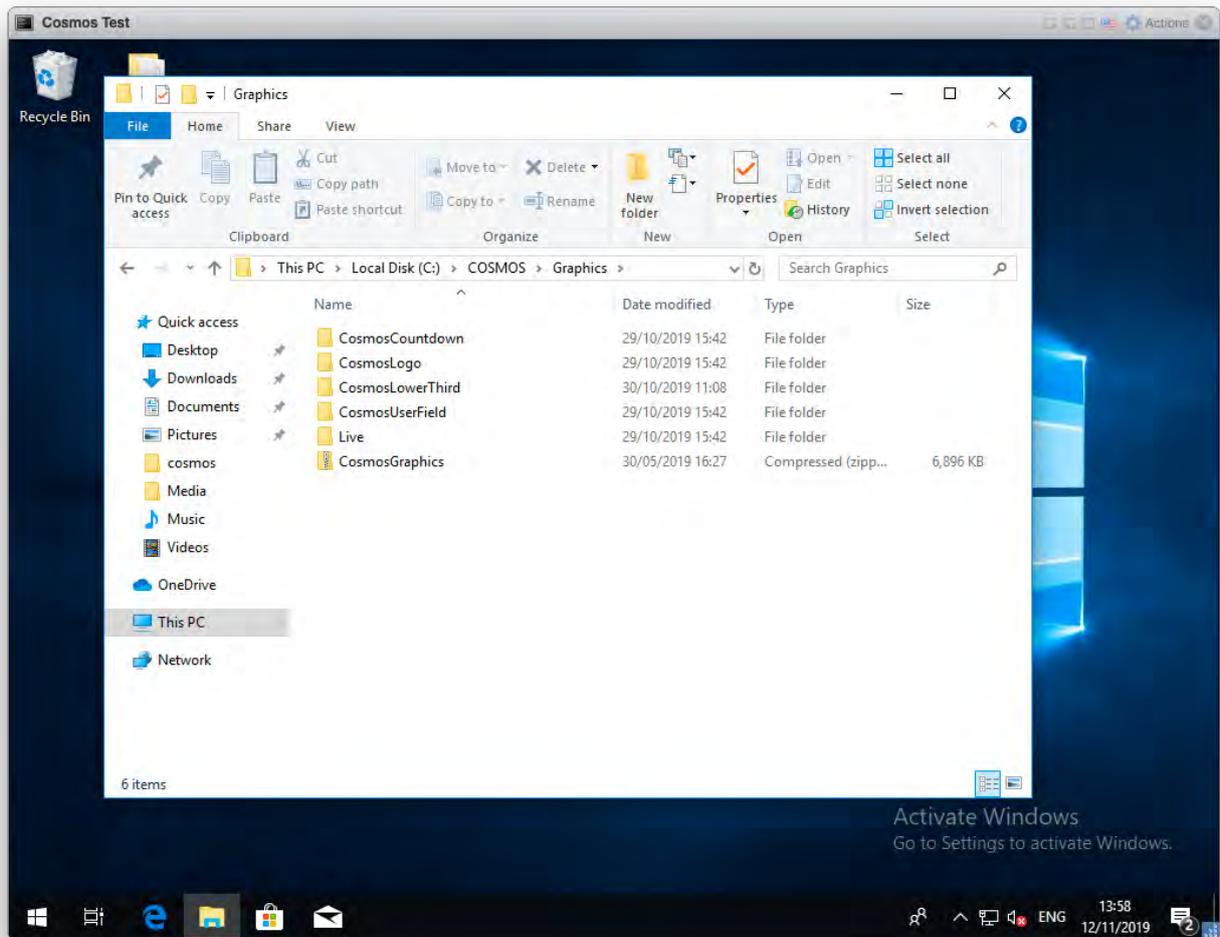
Media folder



Metadata folder

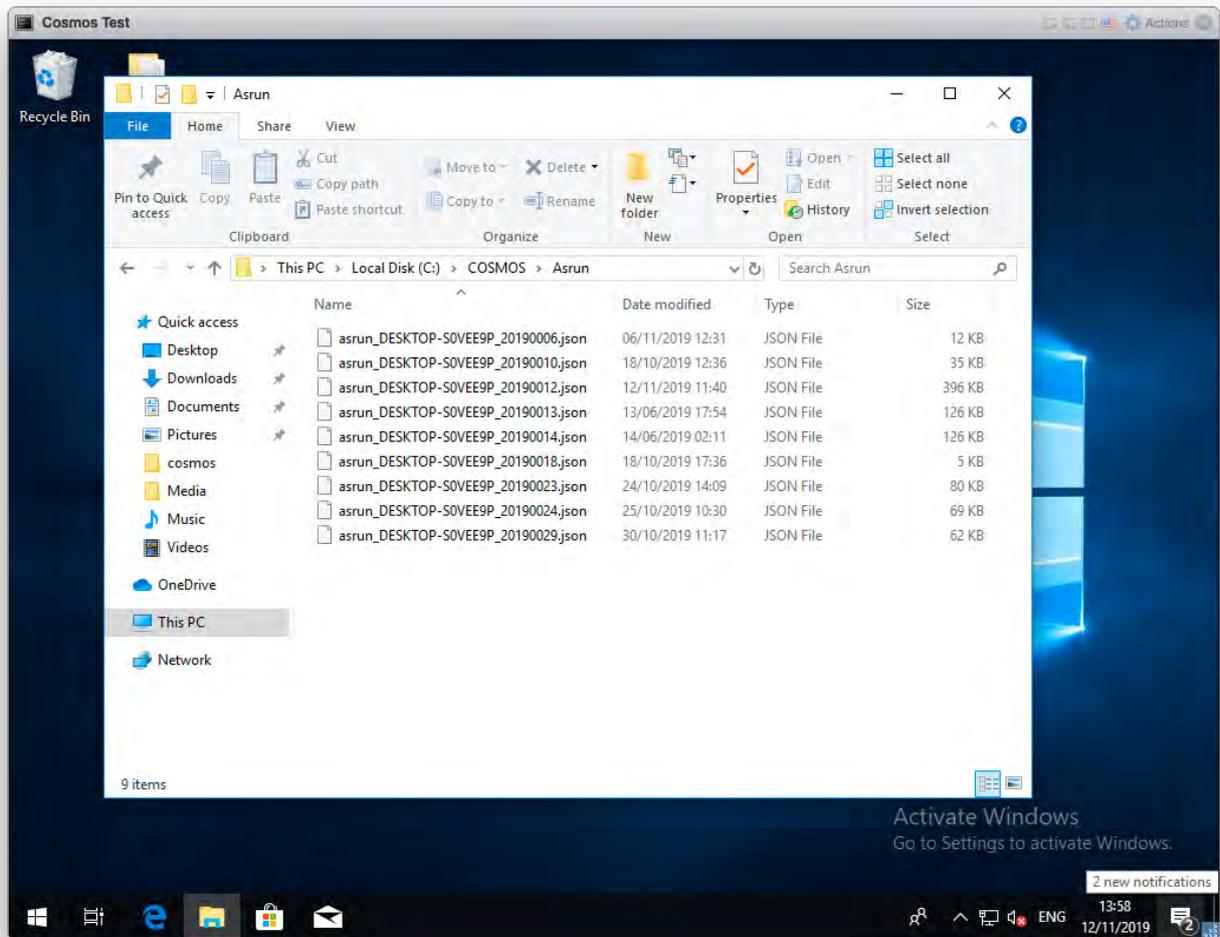


Graphics folder

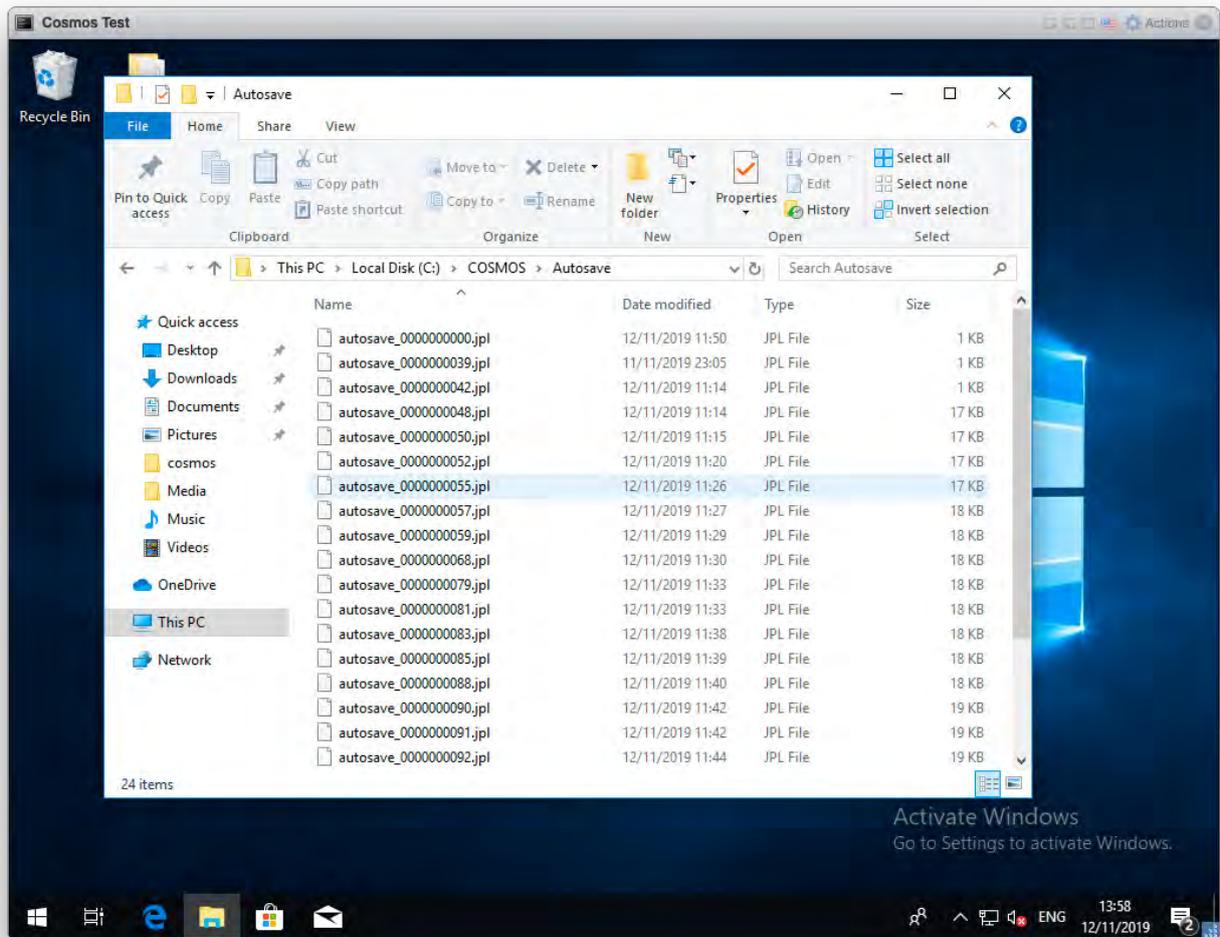


On the Playlist tab the paths to the playlist, autosave and as run folders can be set.

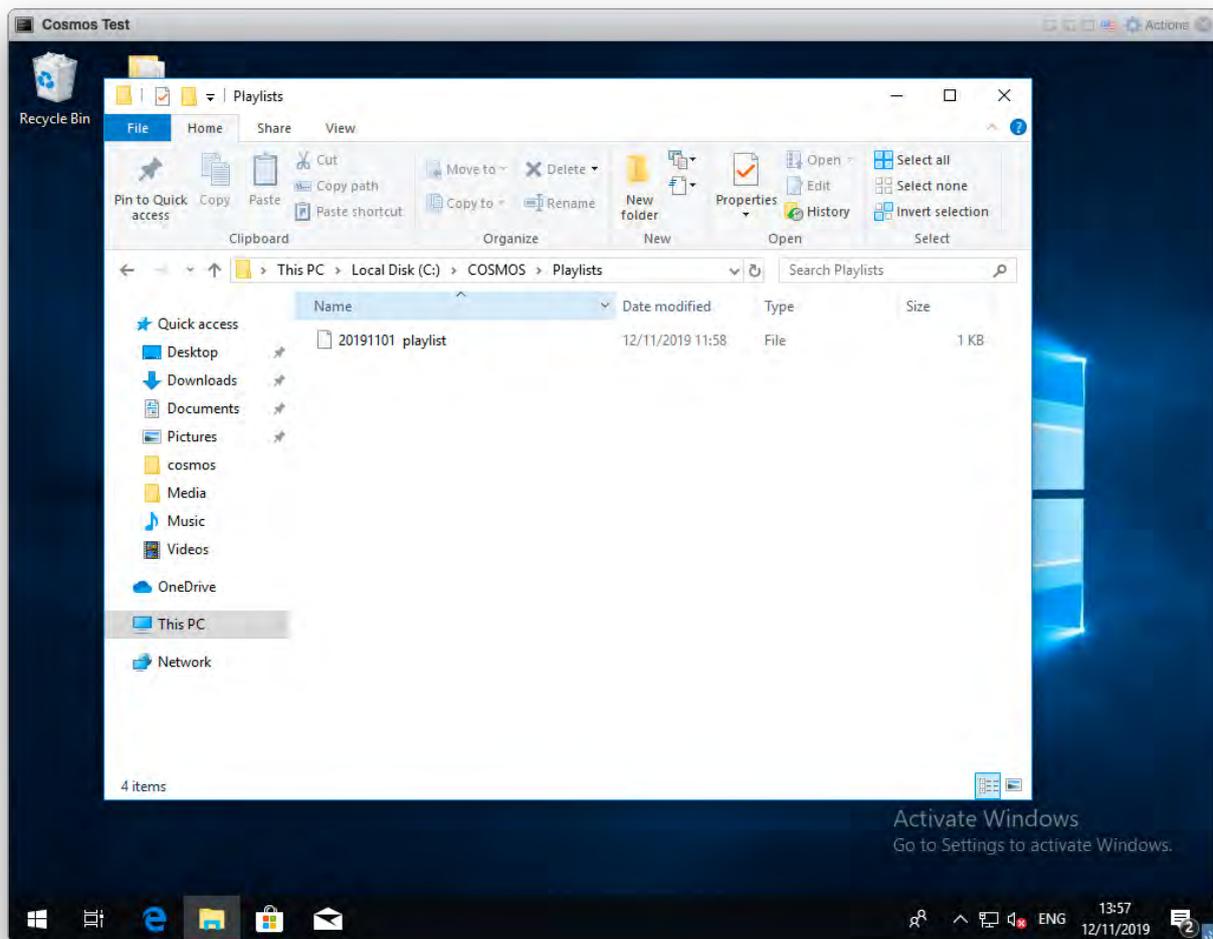
As run folder



Autosave folder



Playlist folder



Please see the Configuration Tool for details of the files kept in these folders.