

Content validation in SynergyXR

What is content?

Content is a common concept for all virtual objects stored in a Workspace and which can be placed in a Space. Currently the following types of Content are supported in SynergyXR:

Type	Description
Images	.JPG and .PNG file format supported
Video	.MP4 and .MOV file format supported
Documents	.PDF file format supported
3D models	.GLB and .FBX file format supported
Audio	.MP3, .WAV and .OGG file format supported (only in Procedures)
Procedures	Complete training program combining of several types of content as well as user interactions structured into Steps and Events

Once uploaded to SynergyXR, content can be reused in unlimited number of Spaces.

Content validation

The amount of content that can be shown in SynergyXR depends on many factors. All content uploaded to SynergyXR either through the SynergyXR Manager or the Procedure Builder goes through a validation process to ensure the content is optimized enabling users to build rich XR training programs. The results are stored in various Performance Reports available in SynergyXR helping users understand where further optimization is needed.

Content validation – 3D models

The following are the limits for 3D models when uploaded through the SynergyXR Manager or when used in a Procedure built in the SynergyXR Procedure Builder.

Type	Warning limit	Error limit
File size	50MB	N.A.
Memory estimate	100MB	350MB
Diagonal size minimum	0.1m	N.A.
Diagonal size maximum	30m	N.A.
Texture dimension	2048px	N.A.
Triangle count	100.000	800.000
Mesh count	50	150
Draw calls	50	150
Model properties	Vertex colours Specular glossiness	Draco mesh compression

Content validation – images

The following are the limits for images when uploaded through the SynergyXR Manager or when used in a Procedure built in the SynergyXR Procedure Builder.

Type	Warning limit	Error limit
File size	30MB	N.A.
Memory estimate	40MB	100MB
Texture dimension	2048px	4096px

Content validation – videos

The following are the limits for videos when uploaded through the SynergyXR Manager or when used in a Procedure built in the SynergyXR Procedure Builder.

Type	Warning limit	Error limit
File size	N.A.	800MB
Memory estimate	100MB	250MB
Resolution	1920px	3840px
Codec	N.A.	HEVC

Content validation – audio

The following are the limits for audio when used in a Procedure built in the SynergyXR Procedure Builder.

Type	Warning limit	Error limit
File size	30MB	N.A.
Memory estimate	100MB	250MB

Content validation – PDF document

The following are the limits for PDF documents when uploaded through the SynergyXR Manager.

Type	Warning limit	Error limit
File size	30MB	N.A.
Memory estimate	100MB	250MB
Resolution	2048px	4096px

Procedure validation

The following are the limits when building a Procedure using the SynergyXR Procedure Builder.

Type	Warning limit	Error limit
Download size	250MB	500MB
Memory estimate	1GB	1.5GB
Triangle count	200.000	750.000
Draw calls	100	250

Environment validation

The following are the limits when building an Environment using the SynergyXR Environment Builder.

Type	Warning limit	Error limit
Memory estimate	500MB	1.000MB
File size	100MB	N.A.
Individual triangle count	60.000	100.000
Total triangle count	300.000	700.000
Model count	10	N.A.
Texture memory	200MB	400MB
Material count	30	50
Collider dynamic triangles	N.A.	100.000
Collider static triangles	N.A.	10.000
Sound sources	5	N.A.
Real-time light	N.A.	1
Real-time shadow	N.A.	1
Real-time light probes	N.A.	1
Mixed lights	1	N.A.
Custom light probes	N.A.	1

Space validation

The following are the limits for an entire Space including Environment and all content including any Procedure placed in the Space.

Type	Warning limit	Error limit
Download size	250MB	500MB
Memory estimate	1GB	1.5GB
Triangle count	300.000	800.000
Draw calls	100	250
FPS	50	40