

Software Suite 2023

THE LUMISCAPHE ECOSYSTEM



TABLE OF CONTENTS

Lumiscaphe software and their workflow	4
What do we mean by "Software Suite"?	4
What does the Lumiscaphe Software Suite do?	5
Marketing and Sales	5
Engineering	5
Design	5
Creating the DAM	6
Using the DAM	7
Aeronautics	7
Automotive	7
Design Studios	7
What software is included?	7
Patchwork 3D	8
Patchwork Explorer	10
Accel VR	11
Lumis 3D	15
Lumis 3D iOS	17
Web Render	17
Workshop SDK	17
Additional tools	17
Patchwork Batchter	18
Patchwork Lightmap Render	18
Lumiscaphe file formats	19
DAM production workflow dependencies	19
Software availability and functionalities	21
Software Suite 20223	21
Software Suite 2022	22
Software Suite 2021.1	23
Software Suite 2020.2	24
Software Suite 2020.1	25
Software Suite 2019.2	25
Version release rules and patch update support	27
Names and versioning rules	28
Software Suite	28
Products	28
KDR data	28
File Format Compatibility	30
P3D file format compatibility	30
Compatibility of the P3D format between different versions of Patchwork 3D	30

Version: 20230510.1233

© Lumiscaphe SA, 2001-2023

Headquarters:

Espace France
4 voie Romaine
33610 Canéjan
France

Documentation lead: P. Peyrevidal

Reproduction, extraction, presentation, alteration, modification, or use, whether in whole or in part, of this documentation or of any of its elements whatsoever, by whatever means or for whatever purpose, and more generally any act that has not been explicitly authorized by Lumiscaphe are strictly forbidden and subject to prosecution.

Trademarks, brands, brand names, service marks, logos, and other distinctive symbols displayed in this documentation are property of their respective owners and are protected by French and European legislation, as well as by other applicable legislation. All unauthorized use or reproduction is strictly prohibited.



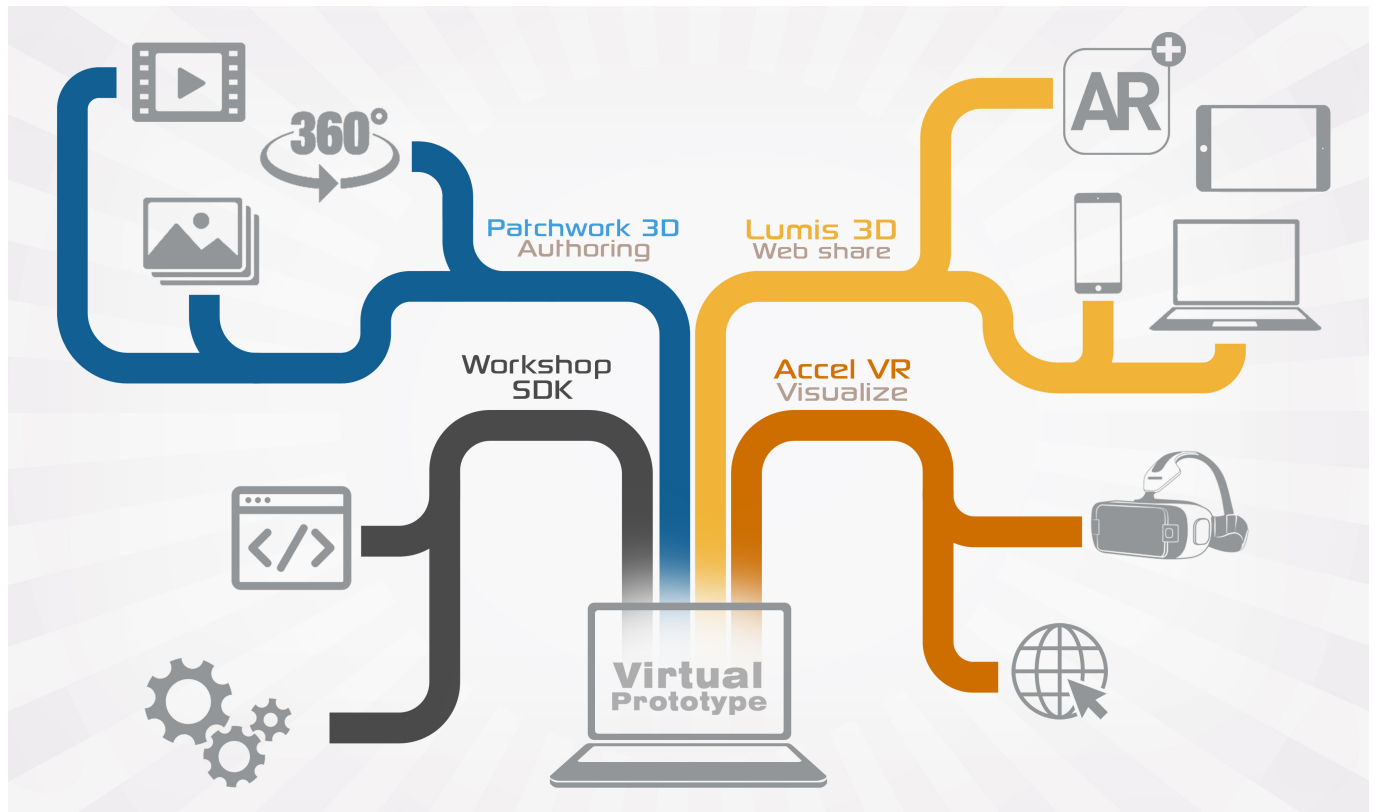
WARNING

This document is for strictly confidential use and should not be redistributed without prior written agreement of Lumiscaphe.

LUMISCAPHE SOFTWARE AND THEIR WORKFLOW

Lumiscaphe software each has a specific and complementary function:

- Patchwork 3D creates photorealistic 3D prototypes,
- Accel VR allows you to visualize them in VR,
- and, Lumis 3D to share them on the web.



Thanks to "digital continuity" you can work independently in each software and reuse the data in full compatibility. The software communicates with each other.

What do we mean by "Software Suite"?

The Software Suite is the set of all software designed to work together. The software is identified by a version linked to the year in which it was released (2020, 2021, 2022, etc.).

Example: The Enterprise Software Suite 2022 includes Patchwork 3D 2022, Accel VR 2022, Lumis 3D 2022, etc...

The table below summarizes the software included in the Software Suite.

Enterprise Suite	
Patchwork 3D	✓
Patchwork Explorer	✓
Accel VR	✓
Lumis 3D	✓
Lumis 3D iOS	✓
Web Render	✓
Workshop SDK	✓

What does the Lumiscaphe Software Suite do?

The Software Suite is used at multiple points in the product lifecycle, from design to sales.

Lumiscaphe's Software Suite implements photorealistic visualization and manipulation of products, without having to rely on a physical object that may not yet exist.

Lumiscaphe's 3D prototype, called a Digital Aspect Mockup (DAM) helps solve problems related to analysis or to visualization where there is a need to take into account the final appearance of a product before the product can be placed before the person who needs to evaluate it.

By using a photorealistic 3D prototype, a company can resolve a variety of issues.

Marketing and Sales

- Provide material to support sales to showcase configurable 3D products to the needs of prospects/customers.
- Produce images, videos, and other marketing assets, from very large ads to animated publicity spots.
- Display all of the variants of a product, even when a point of sale cannot have all of them in stock .
- Reassure the consumer by giving him the ability to visualize the chosen options (colors, customization, ergonomics...)
- Sell online by using a 3D configurator of products (selected and customized by the customer).
- Allow customers to customize their product without intervention or by limiting the intervention of the design office (text, engraving or printing styles, positions, ...)

Engineering

- Build digital services to share the DAM in all departments of the company.
- Reduce costs by producing few or no physical prototypes
- Analyze certain design elements that require the accurate perception of volumes and aspects
- Have decision-makers validate final aspects before production

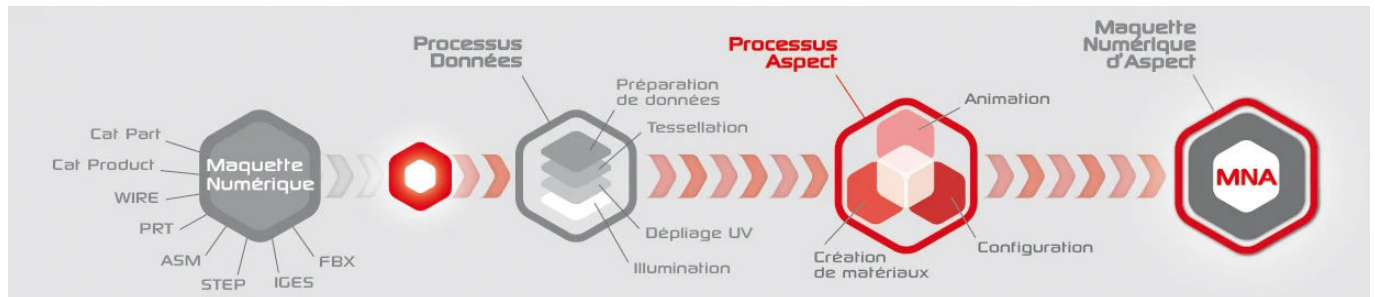
Design

- Reduce delays in design by shorter validation cycles
- Facilitate creativity in design teams

The DAM is the only 3D prototype that is designed to meet company-level challenges. A single DAM can be used by different departments to meet entirely unrelated challenges.

When the use of a DAM is optimized, it also encourages data sharing between different departments in the company.

Creating the DAM



Lumiscaphe's Software Suite creates a 3D prototype based on a modelization created in separate software earlier in the process.

This modelization can be composed of surfaces, such as when created for product design or product creation purposes. The Software Suite imports commonly used formats: SolidWorks, Alias, Rhino...

When the model comes from an engineering department and is composed of geometries, it is imported in a CAD format. The Software Suite supports NURBS formats and part-assembly formats (Nx, Creo, Catia...)

Once imported, work is done on a model to improve how it is rendered and to allow it to accept materials, cinematic structures, or a configuration system. Examples of workflow steps include:

- Moving surfaces in the 3D world in order to position or orient them differently,
- Duplicating a surface, possibly symmetrically,
- Moving a surface to a different geometry layer,
- Modifying the tessellation of a surface,
- Modifying the UV mapping of a surface,
- Associating a surface to a cinematic helper to be able to animate it,
- Adding lighting to the model,
- Creating a material and assigning it to a surface,
- Importing textures and using them as backgrounds, texture/depth, or as material patterns,
- Using materials to create the product's shadow,
- Using materials to create reflective or transparent surfaces,
- Adding a lighting environment,
- Using a lighting environment as an image projected onto a skydome,
- Placing cameras,
- Adding backgrounds, overlays, and 2D post-processing,
- Adding configurability:

- Setting up geometry, position, lighting, environment, and aspect layers,
- Creating configuration rules that indicate when each layer is visible,
- Saving certain combinations of rule activations (and therefore combinations of visible layers) as bookmarks.
- Adding real-time lighting to a product,
- Animating the product,
- Creating a raytracing render of the product to underline the realism wherever reflections and refractions of light are present,
- Generating high definition videos and images,
- Exporting the product to use it in the views and other Lumiscaphe applications.

Using the DAM

This section lists some of the principal uses of the DAM in the main industries represented by Lumiscaphe's clients.

Aeronautics

In the aeronautics industry, aircraft seat manufacturers and cabin design creators use the Lumiscaphe Suite for:

- Product design
- Pre-sales
- Validation cycles with clients and prospects

Automotive

In the automotive industry, the Lumiscaphe suite is used:

- By color and trim departments to create concept cars or to create a series of vehicles
- By design and engineering departments to approve the vehicle look
- By communication and marketing departments to provide visuals for catalogs and websites, including those used in 3D configurators.

Design Studios

Design studios use the Lumiscaphe suite to:

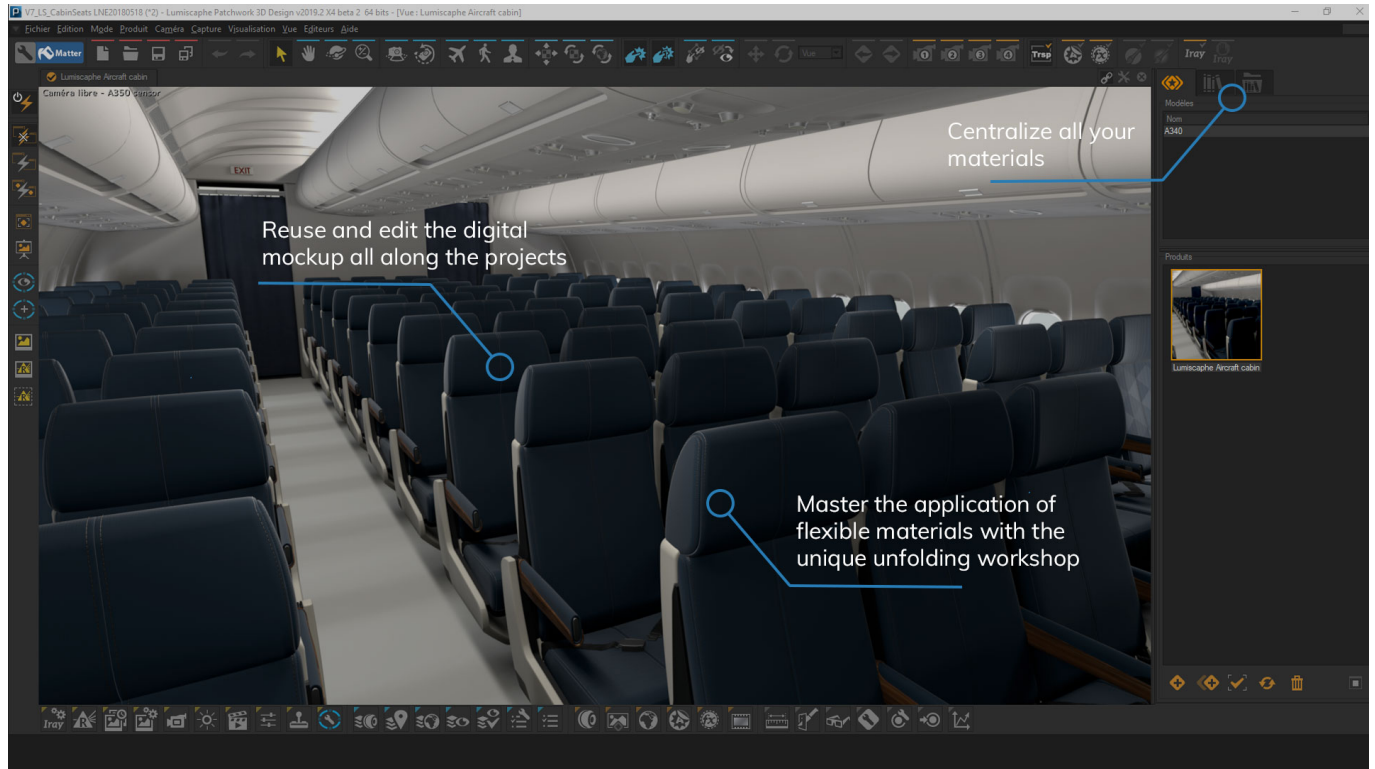
- Obtain a very realistic preview of a design
- Evaluate perspectives and volumes in 3D, often using virtual reality

What software is included?

The Software Suite is composed of multiple software, which plays various roles.

Patchwork 3D

From a raw CAD model, **Patchwork 3D Enterprise** provides information about the final appearance of a product. This appearance can include materials, lightings, animations, a realistic environment or configurable options.



Patchwork Enterprise offers all the functionalities of a 3D prototyping software.

Based on the Enterprise edition, **Patchwork 3D Essential** gathers all the main functionalities developed for CG artists' specialized needs to create materials for example.

In addition to the features of Patchwork 3D Enterprise, **Patchwork 3D Engineering** offers the ability to integrate into an industrial process. Often associated with existing product lifecycle management (PLM) or interoperability with existing digital process steps, Lumiscaphe meets customer needs by providing integration and development solutions capable of using existing digital data and processes.

Below are the available features of Patchwork 3D.

Features	Essential	Enterprise	Feature explanation
Licensing			
Pricing	≥2022: Annual subscription <2022: Annual subscription or Permanent license	≥2022: Annual subscription <2022: Annual subscription or Permanent license	
License	≥ 2022: Seat <2022: Permanent, dongle, nodelock, token	≥ 2022: Seat <2022: Permanent, dongle, nodelock, token	
License term	Annual	Annual	When the Patchwork 3D Premium subscription expires, its license changes into a Patchwork 3D Community license.
Offline use	✓	✓	Enterprise edition: nodelock, USB key, token, borrowing from a license server for several days.
Permitted use	Commercial	Commercial	
Free Student License	-	✓	For the Enterprise edition with a Lumi'School contract.
Lumi'School license	-	✓	For teachers, staff and students.
3D and rendering			
Real-time Digital Aspect Mockup rendering	✓	✓	Dress the models with materials, labels. Configure scenes with realistic lighting, animation, post-processing effects, overlays, etc. OpenGL rendering and raytracing.
Product configurations	✓	✓	Configurable products for design review, product demonstration, online configurators, etc.
Lights, Real-Time Sun, Bright environments	✓	✓	
Preview Lighting Engine	✓	✓	

Features	Essential	Enterprise	Feature explanation
Raytracing and Distributed Lightmaps	-	✓	
Lightmaps	-	✓	
UV Unfolding Workshop	-	✓	
Iray Rendering Engine	-	✓	
Seams Workshop	-	✓	
Materials and Car Paint AxF, flakes layer	-	✓	
Importing			
FBX, DXF, 3DS, OBJ, STL	✓	✓	
Rhino conversion plugin	✓	✓	Import a Rhino model with a single click.
IGES, STEP, ACIS SAT, SolidWorks, ProE/Creo, Catia v4, v5, NX	✓	✓	
Parasolid, Alias, DC3D, SolidEdge,	✓	✓	
Exporting			
Format KDR	Enterprise .kdr	Enterprise .kdr	Digital aspect mock-up file for web / mobile compatibility with Accel VR and Lumis 3D.
FBX, OBJ	✓	✓	
P3D XML, Ksc	-	✓	
Raptor format	-	✓	
Ecosystem and integration			
Database format	Enterprise .p3d	Enterprise .p3d	
HDR Light Studio	-	✓	
RESTful API	✓	✓	
Scripting		✓	Python user scripts
SDK Workshop	✓	✓	C++ and C#
Industrial process integration	-	With Engineering Edition	Integrate Patchwork 3D into the life cycle of your products (PLM). Custom tools and services provided.

Patchwork Explorer

The Patchwork Explorer software is a 3D visualization software allowing to interactively present Digital Aspect Models with the Patchwork 3D authoring software, to explore its configurations and to create layouts of several DAMs. Its use is very simple and does not require any knowledge in the field of 3D.

Patchwork Explorer meets your 3D visualization software needs for:

- Explore a digital aspect mockup from different angles and configurations.
- Generate images from a selected viewpoint.
- View and compare multiple products or variations of a product.
- Create a scene with multiple products.
- Carry out a project review relating to a product or a range of products.

Patchwork Explorer Enterprise offers all the viewing and configuration features mentioned above.

Features	Enterprise	Feature explanation
Licensing		
Pricing	≥2022: Annual subscription <2022: Annual subscription or Permanent license	
License	≥ 2022: Seat <2022: Permanent, dongle, nodelock, token	
License term	Annual	
Offline use	✓	Enterprise edition: nodelock, USB key, token, borrowing from a license server for several days.
Permitted use	Commercial	
Free Student License	✓	For the Enterprise edition with a Lumi'School contract.
Lumi'School license	✓	For teachers, staff and students.
Importing		
KDR format from Patchwork 3D	Enterprise .kdr	Patchwork 3D Enterprise can convert Community/Premium .p3d files for 6 months with an upgrade purchase.
Features		
Visualization	✓	Patchwork Explorer allows you to visualize and present in 3D Digital Aspect Mockups (DAM).
Layout	✓	Layouts allow you to combine multiple products in the viewport to create a scene.
Product analysis	✓	

Accel VR

Accel VR is a virtual reality software solution designed for the visualization of 1:1 scale a DAM. DAMs can be displayed on multi-screen immersive systems such as CAVE, PowerWall or virtual reality head-

sets and can be manipulated using configurations, animations, scenography, and real-time presentation elements that have previously been created in Patchwork 3D.



Accel VR Enterprise offers all the viewing and configuration features described in the paragraph above.

The software uses a system of plugins:

- **CADTools:** It allows you to import a 3D model of third-party CAD software to interact in virtual reality to add curves, deform surfaces, rotate, and move them. The changes can then be exported to the third-party CAD software that created the 3D model. This plugin supports certain types of CAD files from 3rd party software (Maya, Rhino, Catia, Alias) thanks to the CADLayout format. CAD Tools adds editing features to Accel VR.
- **CAVE:** supports DAM display and immersive interaction in a CAVE.
- **HMD:** supports DAM display and immersive interaction in a virtual reality headset.
- **zSpace:** supports DAM display and 3D interaction on a zSpace.
- **Projection Mapping:** support for the projection of a DAM on a neutral scaled model ("projection mapping").

Features	Enterprise	Feature explanation
Licensing		
Pricing	≥2022: Annual subscription <2022: Annual subscription or Permanent license	
License	≥ 2022: Seat <2022: Permanent, dongle, nodelock, token	
License term	Annual	
Offline use	✓	Enterprise edition: nodelock, USB key, token, borrowing from a license server for several days.
Permitted use	Commercial	Non-commercial use includes: evaluation, students, education, hobbyists and enthusiasts.
Free Student License	✓	For the Enterprise edition with a Lumi'School contract.
Lumi'School license	✓	For teachers, staff and students.
Importing		
KDR format from Patchwork 3D	Enterprise .kdr	Patchwork 3D Enterprise can convert Community/Premium .p3d files for 6 months with an upgrade purchase.
Devices		
Headset compatibility	✓	
HMD only display	✓	
Companion monitor	✓	Live what the user sees on a standard 2D monitor.
CAVE and PowerWall compatibility	✓	In addition to VR headsets, different displays such as a mono/stereo PowerWall and/or a CAVE can be used with this license option.
Features		
Configuration	✓	
Timelines	✓	
Flashlight	✓	
Points of interest	✓	
Customizable user interface	✓	
Measuring tools	✓	
Clipping planes	✓	

Features	Enterprise	Feature explanation
Collaboration	✓	Live sync changes to the 3D model you're working on and interact with multiple VR headsets. A license is required for each headset with a synchronization option.
Products layout	✓	Layout several 3D models or multiple times the same model to compose your scene.
API plug-in	✓	Develop your own plugins to extend the immersive experience.
Latest innovations	✓	The latest innovations are developed for the Enterprise edition first.
CAD Tools		
CAD Tools plugin	option	Plugin and features allowing to import of a model from third-party CAD software, to interact in VR by deforming it, rotating it, moving it, and adding curves to it. Modifications can be exported back in the third-party CAD software.
Collisions, Mannequin	option	<p>The collider is used to display the intersections between products when it collides with surfaces.</p> <p>The mannequin allows you to simulate and see the movements of your body in a 3D environment.</p>
Optimization		
Culler plugin	option	Accelerate your system for data-intensive 3D scenes. This option requires an additional computer.

Accel VR also offers the possibility of directly importing a DAM by logging in from your Lumis 3D account.

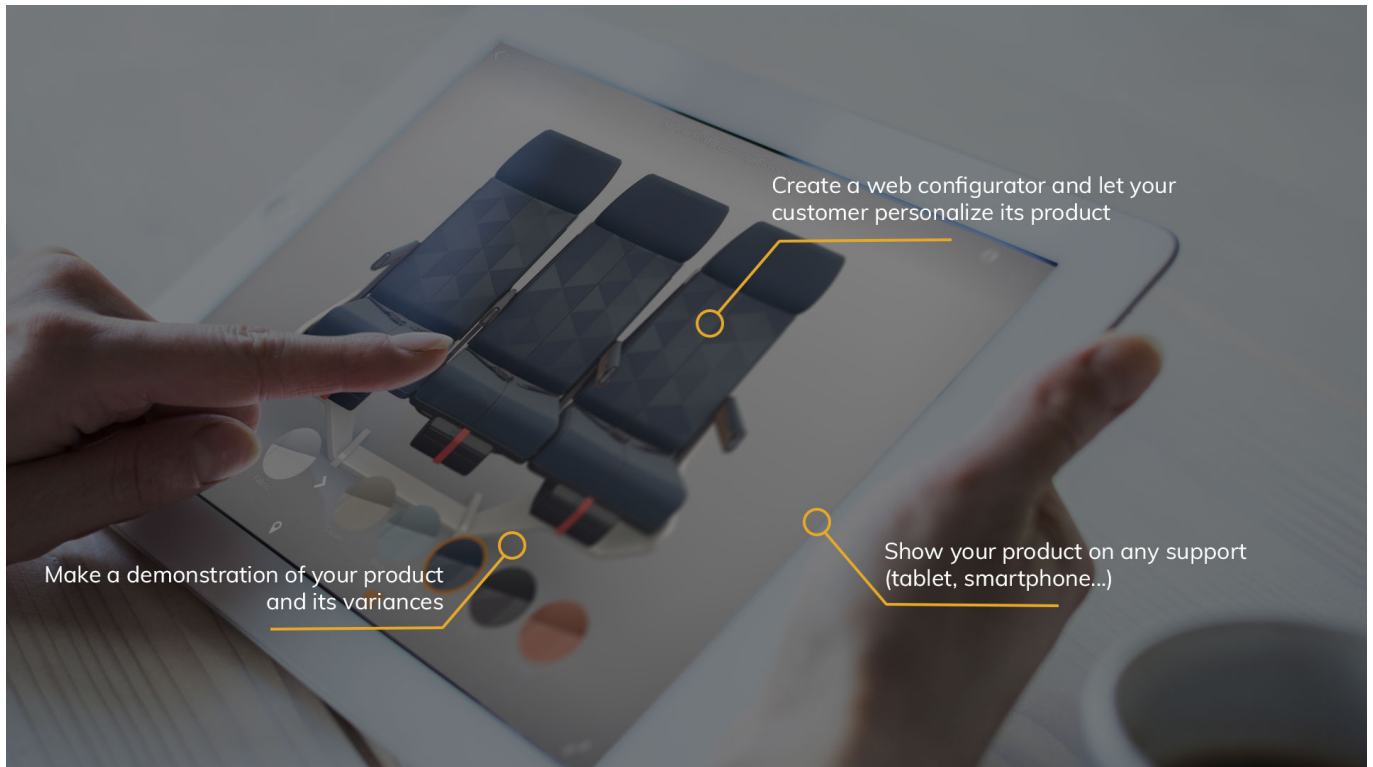


NOTE

Plugin functions are available via user license options.

Lumis 3D

Lumis 3D is a browser-based document management system including the ability to view and explore a DAM.



It includes additional modules for:

- Creating filtered or augmented versions of a DAM, or layouts of multiple DAMs.
- Using DAMs during dynamic presentations for design reviews.
- Creating presentation based on a DAM.
- Accessing the Lumis 3D mobile app.

Lumis 3D comes in three subscription plans to choose from Enterprise On-Premise (self-hosted by clients), Enterprise Hosted (dedicated), or **Online** (shared). All features must be purchased in the same subscription plan.

Lumis 3D Enterprise offers all the viewing and configuration features mentioned above.

Features	Enterprise Online	Enterprise On Premise	Feature explanation
Offer			
Base storage space	100 GB / user	According to customer needs	Shared space for all domain users (Enterprise Online only).
Extra storage space	Extra	According to customer needs	Shared space for all domain users (Enterprise Online only).
Licensing			
User license	1/user	1/user	1 license per user "User" license means the license is locked to you as a named person, whichever device you are using.
Team Domain license	1	1	1 license provided per domain
Evaluation license	On request	On request	
License term	Annual	Annual	
Permitted use	Commercial	Commercial	
Usage statistics	✓	-	No usage statistics for the On Premise edition.
Importing			
KDR format from Patchwork 3D	Enterprise .p3d	Enterprise .p3d	Enterprise applications can convert Community/Premium .p3d files for 6 months with upgrade purchase.
KDR format from Patchwork 3D	Enterprise .kdr	Enterprise .kdr	Enterprise applications can convert Community/Premium .p3d files for 6 months with upgrade purchase. File formats for web/mobile compatibility of Accel VR and Lumis 3D.
Per user features			
Private Space drive	✓	✓	
Shared Space drives	✓	✓	
Web viewer & public link sharing	✓	✓	
Product & Scene editor	✓	✓	
Mobile app	✓	✓	

Lumis 3D iOS

iOS app for iPad and iPhone that allows access to Lumis 3D data. Its functions include an augmented reality viewing module.

Web Render

A set of software components for rendering images and videos of a digital aspect mockup via HTTP web requests.

As the rendering “motor” using HTTP requests, Web Render is the back-end tool that provides the rendering service for independent front-end solutions. It is most commonly used to provide rendering power to solutions running on devices with unknown or limited processing power, such as is the case with web-based front-end solutions. It is therefore used to power mobile applications, internet sites, and online configurators.

Features	Enterprise	Feature explanation
Offer		
Web Render Unit License	Contact us	Requires a custom analysis of your 3D visual generation needs.
Licensing		
License	Seat	"Seat" license means license is locked to a hardware host such as computer, network server, dongle, whoever uses it.
License term	Annual	
Usage statistics	Option and setting	
Importing		
Format KDR de Patchwork 3D	Community/Premium/Enterprise .kdr	
Platform		
Web Provider	✓	
Web Render API	✓	

Workshop SDK

Software Development Kit for integrators who develop desktop applications that explore and visualize digital aspect mockups. Licenses are available as periodic subscriptions only.

This kit is often used by developers to create interactive kiosks for trade shows, and other personalized viewers for the models created in Patchwork 3D.

Additional tools

Tool name	Description	Marketing policy
USER PACKAGE		

Tool name	Description	Marketing policy
Patchwork Batcher	Batch processing software for various tasks in Patchwork 3D including: <ul style="list-style-type: none"> • lightmap rendering • Wire file import • Catia v5 file import • tessellation 	Must be purchased separately
Patchwork Lightmap Render	Distributed calculation software for rendering lightmaps.	Provided upon request
Raytracing Cluster Unit	Rendering distributed computing software for raytracing.	Provided upon request
Iray server	Distributed rendering tool with Iray	Not distributed (sold by Nvidia)
PLUGINS PACKAGE		
HDR Light Studio	Plugin and connector for Patchwork 3D to quickly create and calculate custom lighting.	To use HDR Light Studio plug-in, you have to directly purchase the Automotive version of Lightmap HDR Light Studio from the Lightmap website.

Patchwork Batcher

Software for scheduling and grouping ("batching") various tasks in Patchwork 3D.

Patchwork Batcher is most often used for scheduling and batching lightmap calculation for times when the computer running Patchwork 3D is not in use, such as overnight. It is compatible with distributed lightmap rendering when used in conjunction with Patchwork Lightmap Render (see below).

Patchwork Lightmap Render

Software allowing use of a networked computer for distributed lightmap rendering from Patchwork 3D or Patchwork Batcher. It is available upon request addressed to Lumiscaphe.

Distributed lightmap rendering, that is, the ability to use multiple computers to generate (or "bake") the lightmaps used to illuminate products, significantly reduces the time required to create lightmaps. This step is one of the most time-consuming steps in the authoring process, as well as one of the steps that requires the most processing power.

In order to distribute the rendering over multiple computers, the computers a user wishes to use must be running Patchwork Lightmap Render and be connected to the user's computer by a network. Patchwork Lightmap Render is a lightweight application that runs in the background and, when solicited, handles the availability of the computers, the connections between them, and the transfer of data for rendering.

Lumiscaphe file formats

Format	Use	Is created or exported by	Is imported or read by
CAD formats	process input / external data	third party software	Patchwork 3D Enterprise Patchwork 3D Community/Premium
P3D	editable DAM creation format	Patchwork 3D Enterprise	Patchwork 3D Enterprise Lumis 3D
KDR	condensed and non-editable DAM format	Patchwork 3D Enterprise	Patchwork Explorer Accel VR Lumis 3D Web Render
P3DXML	intermediary Xml format of a DAM	Patchwork 3D Enterprise	Patchwork 3D Enterprise
KPL	DAM layout format	Patchwork Explorer Accel VR	Patchwork Explorer Accel VR Lumis 3D
FBX	standardized exchange format for 3D objects	third party software Patchwork 3D Enterprise Patchwork 3D Community/Premium	third party software Patchwork 3D Enterprise
KDM	non-editable format of the KMT material	KMT2KDM converter	Lumis 3D
XmlProduct	DAM format	Patchwork 3D Enterprise	Patchwork 3D Enterprise
OBJ	3D object format (geometry)	third party software Patchwork 3D Enterprise Patchwork 3D Community/Professional	third party software

DAM production workflow dependencies

Operating software	Function	Required preparation
Lumis 3D	Automatic animation thumbnails	Patchwork 3D See Lumis 3D documentation

Operating software	Function	Required preparation
Lumis 3D	Automatic animation thumbnails	Patchwork 3D See Lumis 3D documentation
Lumis 3D	Configuration zones (material replacement)	Patchwork 3D See Lumis 3D documentation
Accel VR	Trigger surfaces for configuration cycles	Patchwork 3D See Patchwork 3D documentation
Accel VR	Trigger surfaces for animations	Patchwork 3D See Patchwork 3D documentation
Accel VR	Automatic configuration thumbnails	Patchwork 3D See Patchwork 3D documentation
Accel VR	Exclude tagged surface when using clipping planes	Patchwork 3D See Patchwork 3D documentation

SOFTWARE AVAILABILITY AND FUNCTIONALITIES

Software Suite 20223

Software	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D Enterprise	2023	≤2023	2023 X6	Display and/or edit the view of a camera directly in the viewport Shift the camera lens Configure the rendering of your model directly in the viewport Keep the same aspect ratio between the active viewport of Matter and Shaper Search and filter results in lists Detach the kinematics hierarchy from the Shaper sidebar and expand/collapse it HDR Light Studio 4.2 support + rim lighting	2023-03-08
Patchwork Batcher	2023	≤2023	2023	Software Suite 2023 supports	2023-03-08
Patchwork Explorer Enterprise	2023	≤X6	n/a	Software Suite 2023 supports	2023-03-08
Accel VR	2023	≤X6	n/a	Ultraleap Leap Motion Support New configuration wizard New collaborative session wizard New hands avatar with color customization	Coming soon!
Lumis 3D / Lumis 3D iOS	2023	≤2023 ≤X6	n/a	Software Suite 2023 supports	2023-03-08
Web Render	2023	≤X6	n/a	Software Suite 2023 supports	2023-03-08
Workshop SDK	2023	≤X6		Software Suite 2023 supports	2023-03-08

Software Suite 2022

Software	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D Enterprise	2022	≤2022	2022 X5	New eyedropper tool in color picker Hexadecimal code for colors Multiple external libraries, aspect layer lock Soft shadows in Iray UX improvements in lists Helper for renaming configurations and layers Customization of toolbars New live mode for reviews	2022-03-16
Patchwork Batcher	2022	≤2022	2022	Patchwork 3D 2022 file supports	2022-03-16
Patchwork Explorer Enterprise	2022	≤X5	n/a	Patchwork 3D 2022 file supports	2022-03-16
Accel VR	2022	≤X5	n/a	UI improvements Hands avatar in VR Simplified preset Collaborative Mode New touch interaction manipulator Head and Shuttle gizmo manipulator New controller manipulator	2022-04-06
Lumis 3D / Lumis 3D iOS	2022	≤2022 ≤X5	n/a	Patchwork 3D 2022 file supports	2022-03-16
Web Render	2022	≤X5	n/a	Patchwork 3D 2022 file supports	2022-03-16
Workshop SDK	2022	≤X5		Patchwork 3D 2022 file supports	2022-03-16

Software Suite 2021.1

S2 (Jul-Dec)	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D	2021.1	≤2021.1	2021.1 X5	SSAO integration Viewing & modifying cameras Alias plugin (Enterprise/Engineering version only) Changing the color of an AxF CPA2 (Enterprise/Engineering version only) Improvements of: the behavior of stitches on surfaces (Enterprise/Engineering version only) and the database size. Multilayer export in PNG format Environnement material support in Iray [experimental] .	2021-03-08
Patchwork Batcher	2021.1	≤2020.1	2021.1	Support of Patchwork 3D 2021.1 files	2021-03-08
Patchwork Explorer	2021.1	≤X5	n/a	-	2021-03-08
Accel VR	2021.1	≤X5	n/a	New UI for advanced system settings. Scene layout import/export with KPL files. Loop animation playback. New hand avatar Canon MREAL Support Improvements of the intersection behavior in CAD Tools.	2021-03-08
Lumis 3D / Lumis 3D iOS	2021.1	≤2019.1 ≤X5	n/a	Patchwork 3D 2021.1 file supports	2021-03-08
Web Render	2021.1	≤X5	n/a	Patchwork 3D 2021.1 file supports	2021-03-08
Workshop SDK	2021.1	≤X5		Support of Patchwork 3D 2020.2 files	2021-03-08

Software Suite 2020.2

S2 (Jul-Dec)	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D	2020.2	≤2020.2	2020.2 X4	Scaling (All versions) Import of materials from Catia / Solidworks / NX / ProE / Step (All versions) Improved imports (All versions) Improved scripting (Enterprise)	2020-09-07
Patchwork Batcher	2020.2	≤2020.1	2020.2	Support of Patchwork 3D 2020.2 files	2020-09-07
Patchwork Explorer	2020.2	≤X4	n/a	-	2020-09-07
Accel VR	2020.2	≤X4	n/a	Addition of the interocular distance Addition of the possibility to adjust the rotation speed of turntables Addition of the possibility to rebuild local environments when changing the configuration Addition of the possibility to recover surface colors when importing a Catia file (CAD Tools license required).	2020-09-07
Lumis 3D / Lumis 3D iOS	2020.2	≤2019.1 ≤X4	n/a	Support of Patchwork 3D 2020.2 files	2020-09-07
Web Render	2020.2	≤X4	n/a	Support of Patchwork 3D 2020.2 files	2020-09-07
Workshop SDK	2020.2	≤X4		Support of Patchwork 3D 2020.2 files	2020-09-07

Software Suite 2020.1

S1 (Jan-Jun)	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D	2020.1	≤2020.1	2020.1 X4	Scripting Python (Enterprise) Stitching Workshop (Enterprise) Floating Viewport of Matter (All versions) License tokens (Enterprise) Select/translate/rotate in Matter (All versions) Cameras in the configuration (All versions)	2020-03-02
Patchwork Batcher	2020.1	≤2020.1	2020.1	Support of Patchwork 3D 2020.1 files	2020-03-02
Patchwork Explorer	2020.1	≤X4	n/a	-	2020-03-02
Accel VR	2020.1	≤X4	n/a	License tokens Stability improvement (CAVE, Synchronization, etc ...)	2020-03-02
Lumis 3D / Lumis 3D iOS	2020.1	≤2019.1 ≤X4	n/a	Split GED/Explorer	2020-03-02
Web Render	2020.1	≤X4	n/a	-	2020-03-02
Workshop SDK	2020.1	≤X4		-	2020-03-02

Software Suite 2019.2

S2 (Jul-Dec)	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Patchwork 3D	2019.2	≤2019.2	2019.2 X4	Flakes layer AxF CPA2 support Simplified import/export	2019-09-02
Patchwork Batcher	2019.2	≤2019.2	2019.2	Support of Patchwork 3D 2019.2 files	2019-09-02
Patchwork Explorer	2019.2	≤X4	n/a	Compatibility with KDR X4 files	2019-09-02

S2 (Jul-Dec)	Version	IN	OUT	Main Features (non-exhaustive list)	Release Date
Accel VR	2019.2	≤X4	n/a	New User Interface Associated SDK for internal integration projects Connection to Lumis 3D Mannequin VRC Cave functionalities: Turntables, Targeted navigation, Antialiasing DTrack protocol support Compatibility with KDR X4 files	2019-09-02
Lumis 3D / Lumis 3D iOS	2019.2	≤2019.1 ≤X4	n/a	WebGL Rendering, Compatibility with KDR X4 files	2019-09-02
Web Render	2019.2	≤X4	n/a	Compatibility with KDR X4 files	2019-09-02
Workshop SDK	2019.2	≤X4		Compatibility with KDR X4 files	2019-09-02

VERSION RELEASE RULES AND PATCH UPDATE SUPPORT

The release rule for versions is as follows.



NOTE

One version of the Software Suite per year

For example, the Software Suite 2021 for the year 2021 and the Software Suite 2022 for the year 2022, and so on each year.



NOTE

Patches support is valid for a rolling 2-year period.

Example for Patchwork 3D:

Version	Release date	Patch support end date
2023	2023-03	2025-03
2022	2022-03	2024-03
2021.1	2021-03	2023-03
2020.2	2020-09	2022-09
2020.1	2020-03	2022-03
2019.2	2019-09	2021-09

NAMES AND VERSIONING RULES

Software Suite

Each quarter, each major or minor software release is grouped into a guaranteed Software Suite to work together.

Each release of the Software Suite is named as follows for each quarter:

[Edition] [year] Ex: Enterprise 2022

Products

The complete designation of a Lumiscaphe product version is constructed according to the following scheme:

Software	Edition	year	Xi	release n
Patchwork 3D	Enterprise	2022	X5	release 1

Ex : **Patchwork_3D_Enterprise_2022_X5_release_1**

␣ = space

The product version number indicates the functional evolutions of the product.

year= major

A new major version of Patchwork 3D Enterprise introduces significant new features or improvements to the use of existing features. A migration plan to accompany the evolution of client processes is required when distributing a major version.

Lumiscaphe releases one major version per year.



NOTE

The **major** version number is incremented when there are functional changes.

release n

A corrective version only contains corrections. Functional updates are never included in corrective versions. A corrective version must be able to be released to all licensed users without updating documentation, translations...

KDR data

The addition of new features in Patchwork 3D affects the data to be exported to KDR. So we decorrelated the software version numbers from the KDR format and added Xi in the software naming.

Compatibility between software within the same release of the Software Suite is ensured.

The version of the KDR named *Xi* may differ between the software components of a release of the same *Sn* version of the Suite.

However, it is guaranteed that Patchwork 3D's KDR export can generate KDR files that are compatible with other products in the Suite.

The mention *Xi*, after the product version number, indicates compatibility with the KDR format from Patchwork 3D.

- For example, when the **Enterprise Suite 2019 S1** contains Patchwork 3D Enterprise 2019.1 **X3** and Patchwork Explorer Enterprise 2019.1 **X3**, it can still use the KDR files from Patchwork 3D because it is the same version (**X3**).
- For example, when the **Enterprise Suite 2019 S2** Includes Patchwork 3D Enterprise 2019.2 **X4** and Patchwork Explorer Enterprise 2019.1 **X3**, the latter can still use the KDR files from Patchwork 3D **by specifying the X3 format when exporting**.

KDR	Version	Description
X1	From v8.0 to v8.2	"Software Suite v8.0"
X2	v8.3	U or V repetition for stickers and textures. Repetition for labels and textures in mirror.
X3	2019.1	Using the roughness map.
X4	From 2019.2 to 2020.2	AxF CarPaint (CPA2) materials. Choice of units for overlays and post-processes.
X5	2021.1 and 2022	Recolouring of AxF CarPaint (CPA2) materials. SSAO Cameras exposure property addition in configurators.
X6	2023 and greater versions	Camera lens shifting and use of Nulls as a target for camera animation bookmarks.

FILE FORMAT COMPATIBILITY

P3D file format compatibility

The file formats between the different versions of the software are not mutually compatible, that is, they can not be read or modified by the software of a different version.

Enterprise/Essential	
*.p3d (Enterprise/ Essential)	Native format
*.p3d (Premium/ Community)	Conversion possible during the upgrade period from Community/ Premium editions to Enterprise/ Essential editions.

Compatibility of the P3D format between different versions of Patchwork 3D

In the case of Patchwork 3D Enterprise, the version numbers follow the rules mentioned below.

Version	Description
*.p3d n	✓ Compatible A file created in Patchwork 3D Enterprise n-1 can be read and edited in Patchwork 3D Enterprise n .
↑ *.p3d n-1 ↓	
*.p3d n-2	✗ Incompatible A file created in Patchwork 3D Enterprise n-1 can be read and edited in Patchwork 3D Enterprise n-2 .



NOTE

The reasoning on compatibility is the same for other Lumiscaphe software.