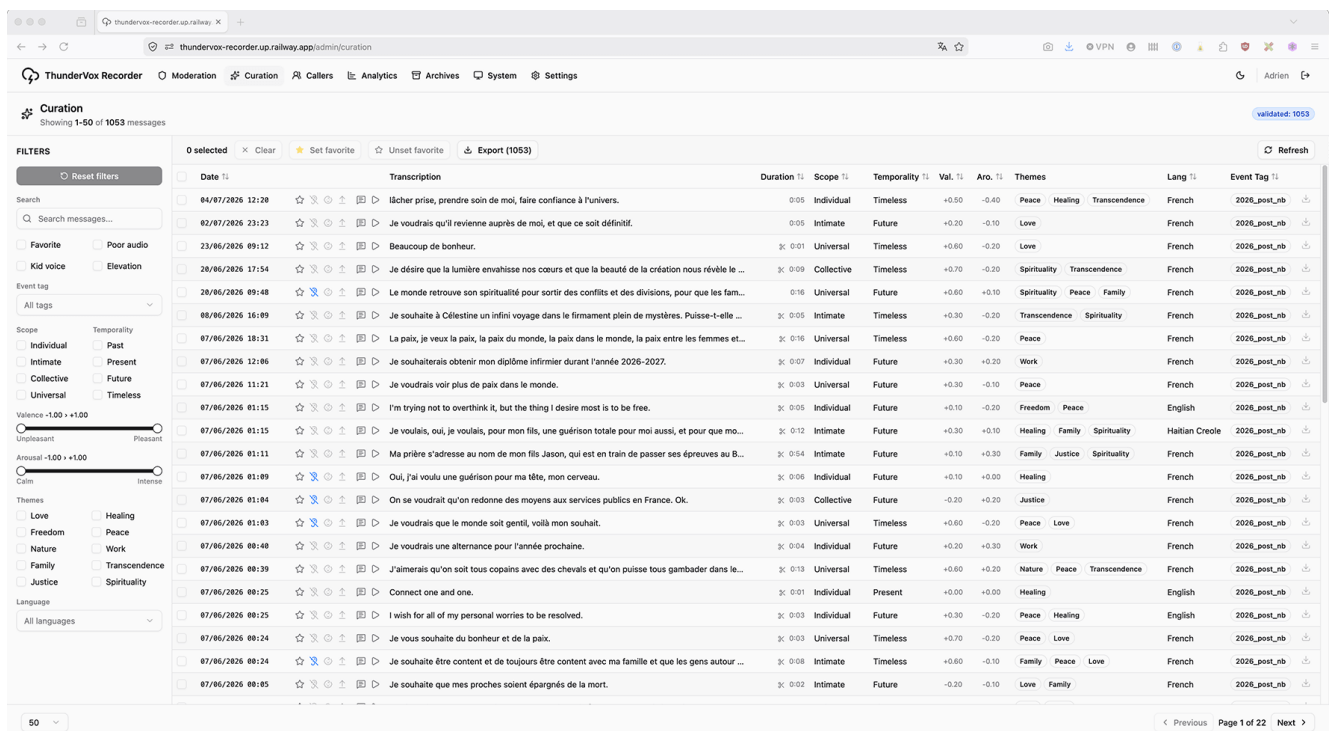


S.O.S, Skin of the Sky: Connecting Voices, Lightning, Sound, and Light Through Rhino and Grasshopper

Inside the Saint-Laurent church in Paris, anonymous voices moved through the architecture like electrical currents.

Some seemed to emerge from above. Others travelled across the nave or dissolved into a wider field of sound. Around them, light and spatial audio transformed the church into an invisible landscape shaped by human wishes and atmospheric activity.

Presented during Nuit Blanche on June 6, 2026, [S.O.S, Skin of the Sky \(Sous la peau du ciel\)](#) is an immersive and participatory installation by artist and researcher [Marie-Luce Nadal](#). Her work explores atmospheric phenomena, including clouds, wind, and lightning, as materials that can be captured, cultivated, and translated into sensory experiences.



The screenshot displays the ThunderVox Recorder interface, which is used for managing and curating messages. The interface includes a sidebar with filters for Scope, Temporality, Valence, Arousal, and Themes. The main area shows a table of 1053 messages, with the first 50 displayed. Each message entry includes a date, transcription, duration, scope, temporality, valence, arousal, themes, language, and event tag.

Date	Transcription	Duration	Scope	Temporality	Val.	Aro.	Themes	Lang	Event Tag
04/07/2026 12:28	lâcher prise, prendre soin de moi, faire confiance à l'univers.	0:05	Individual	Timeless	+0.50	-0.40	Peace Healing Transcendence	French	2026_post_nb
02/07/2026 23:23	Je voudrais qu'il revienne auprès de moi, et que ce soit définitif.	0:05	Intimate	Future	+0.20	-0.10	Love	French	2026_post_nb
23/06/2026 09:12	Beaucoup de bonheur.	0:01	Universal	Timeless	+0.60	-0.20	Love	French	2026_post_nb
26/06/2026 17:54	Je désire que la lumière envahisse nos cœurs et que la beauté de la création nous révèle le ...	0:09	Collective	Timeless	+0.70	-0.20	Spirituality Transcendence	French	2026_post_nb
26/06/2026 09:48	Le monde retrouve son spiritualité pour sortir des conflits et des divisions, pour que les fam...	0:16	Universal	Future	+0.60	+0.10	Spirituality Peace Family	French	2026_post_nb
08/06/2026 16:09	Je souhaite à Célestine un infini voyage dans le firmament plein de mystères. Puisse-t-elle ...	0:05	Intimate	Timeless	+0.30	-0.20	Transcendence Spirituality	French	2026_post_nb
07/06/2026 18:31	La paix, je veux la paix, la paix du monde, la paix dans le monde, la paix entre les femmes et...	0:16	Universal	Timeless	+0.60	-0.20	Peace	French	2026_post_nb
07/06/2026 12:06	Je souhaiterais obtenir mon diplôme infirmier durant l'année 2026-2027.	0:07	Individual	Future	+0.30	+0.20	Work	French	2026_post_nb
07/06/2026 11:21	Je voudrais voir plus de paix dans le monde.	0:03	Universal	Future	+0.30	-0.10	Peace	French	2026_post_nb
07/06/2026 01:15	I'm trying not to overthink it, but the thing I desire most is to be free.	0:06	Individual	Future	+0.10	-0.20	Freedom Peace	English	2026_post_nb
07/06/2026 01:11	Je voulais, oui, je voulais, pour mon fils, une guérison totale pour moi aussi, et pour que mo...	0:12	Intimate	Future	+0.30	+0.10	Healing Family Spirituality	Haikian Creole	2026_post_nb
07/06/2026 01:11	Ma prière s'adresse au nom de mon fils Jason, qui est en train de passer ses épreuves au B...	0:54	Intimate	Future	+0.10	+0.30	Family Justice Spirituality	French	2026_post_nb
07/06/2026 01:09	Où, j'ai voulu une guérison pour ma tête, mon cerveau.	0:06	Individual	Future	+0.10	+0.00	Healing	French	2026_post_nb
07/06/2026 01:04	On se voudrait qu'on redonne des moyens aux services publics en France. Ok.	0:03	Collective	Future	-0.20	+0.20	Justice	French	2026_post_nb
07/06/2026 01:03	Je voudrais que le monde soit gentil, voilà mon souhait.	0:03	Universal	Timeless	+0.60	-0.20	Peace Love	French	2026_post_nb
07/06/2026 00:48	Je voudrais une alternance pour l'année prochaine.	0:04	Individual	Future	+0.20	+0.30	Work	French	2026_post_nb
07/06/2026 00:39	J'aimerais qu'on soit tous copains avec des chevaux et qu'on puisse tous gambader dans le...	0:13	Universal	Timeless	+0.60	+0.20	Nature Peace Transcendence	French	2026_post_nb
07/06/2026 00:25	Connect one and one.	0:01	Individual	Present	+0.00	+0.00	Healing	English	2026_post_nb
07/06/2026 00:25	I wish for all of my personal worries to be resolved.	0:03	Individual	Future	+0.30	-0.20	Peace Healing	English	2026_post_nb
07/06/2026 00:24	Je vous souhaite du bonheur et de la paix.	0:03	Universal	Timeless	+0.70	-0.20	Peace Love	French	2026_post_nb
07/06/2026 00:24	Je souhaite être content et de toujours être content avec ma famille et que les gens autour ...	0:08	Intimate	Timeless	+0.60	-0.10	Family Peace Love	French	2026_post_nb
07/06/2026 00:05	Je souhaite que mes proches soient épargnés de la mort.	0:02	Intimate	Future	-0.20	-0.10	Love Family	French	2026_post_nb

ThunderVox, the custom platform used to collect, transcribe, classify, moderate, and curate more than 1,000 wishes

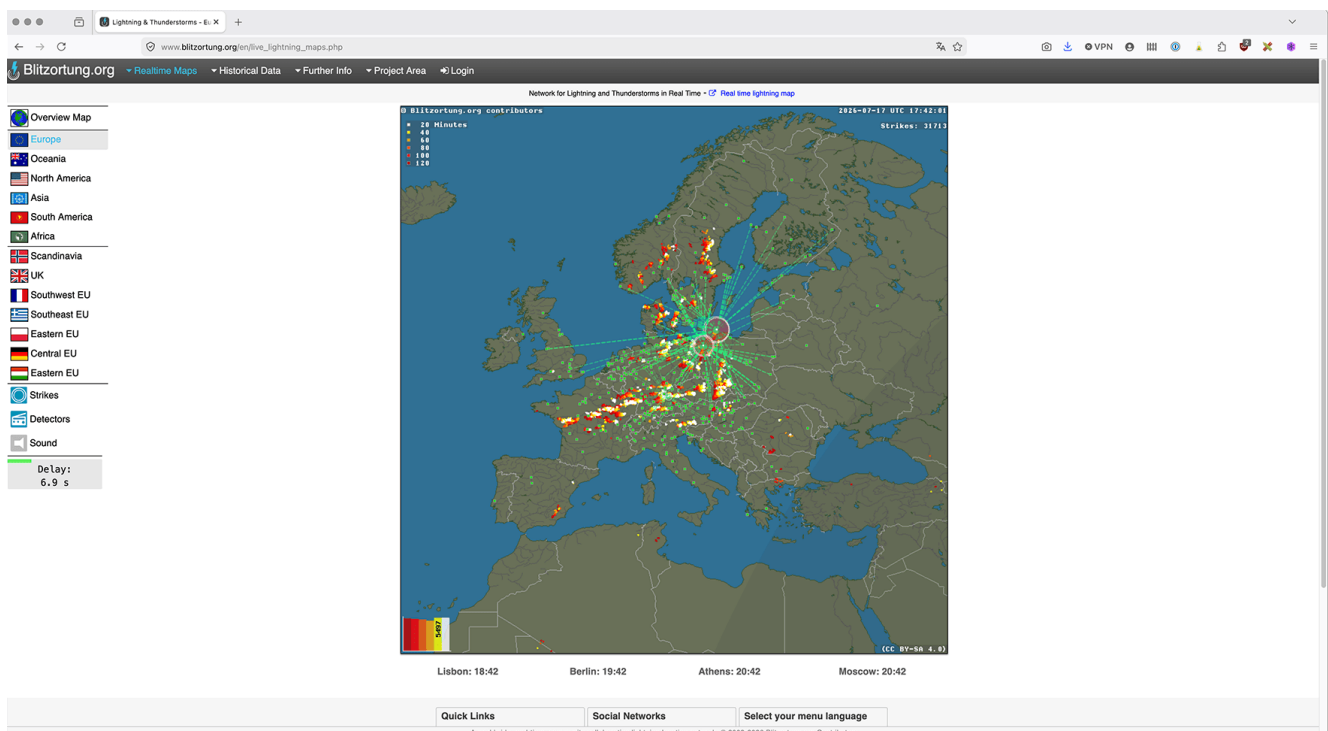
submitted by phone for the installation.

For S.O.S, people from around the world were invited to leave a wish, desire, or prayer through a telephone line. These recordings became part of a collective soundscape connected to real lightning-strike data from the global [Blitzortung](#) detection network.

Each voice was placed in relation to the trajectory of a lightning event, creating a constantly changing constellation of intimate messages moving through the church. The result was both collective and deeply personal: a spatial composition in which human desires appeared to circulate through the atmosphere.

Behind this seemingly intangible experience was a highly coordinated technical system developed by [AKER](#), the Montpellier-based design studio founded by architect [Adrien Revel](#). AKER co-produced the installation, while Revel served as technical director and developed much of the software architecture connecting wish collection, audio processing, spatialization, lighting, and the venue itself.

The journey of each voice began with a phone call through [Twilio](#). The recordings were collected, transcribed, classified, and moderated in ThunderVox, a platform developed for the project. Once validated, the audio was batch-processed in Python using Pedalboard.



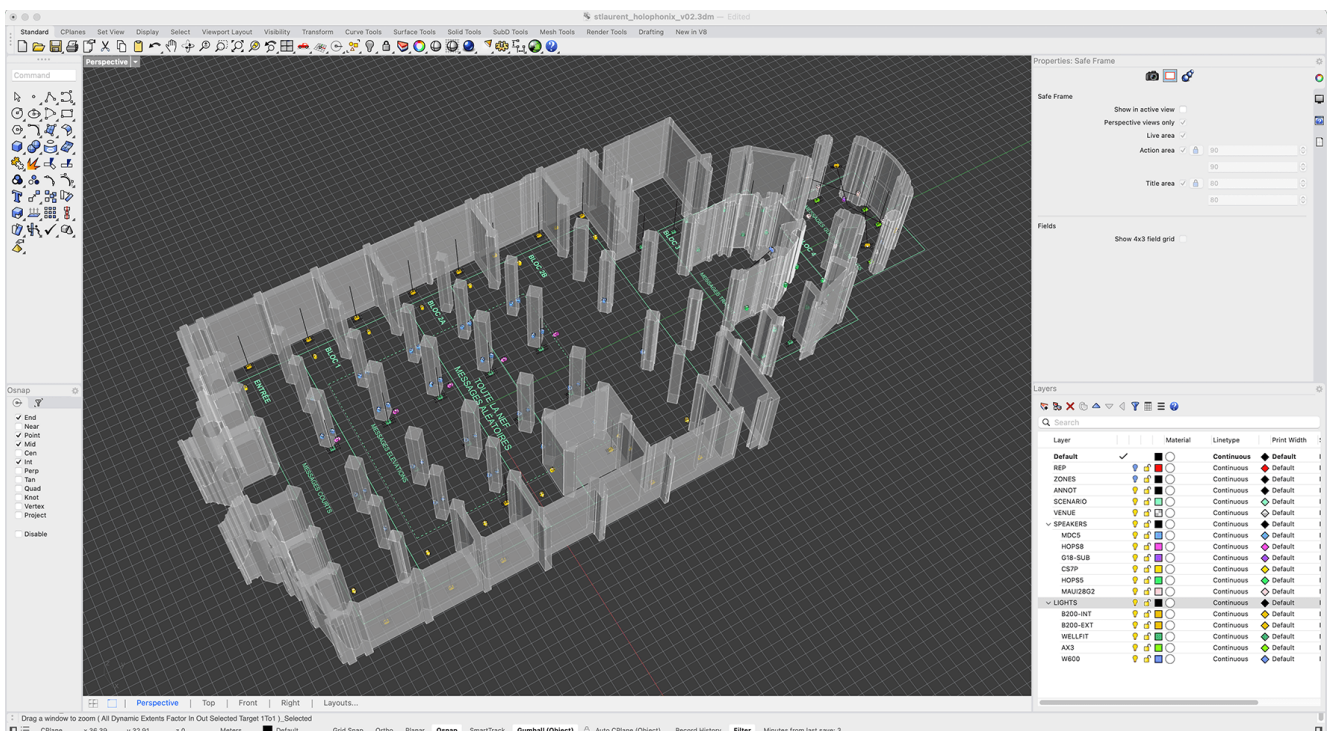
Real-time lightning-strike data from the Blitzortung network

provided the atmospheric events that activated and organized the voices within the installation.

During the performance, a Max patch acted as the central playback system. It organized the soundscape, assigned each recording to a spatial zone, and streamed the trajectories of more than 40 simultaneous audio sources over OSC to the [HOLOPHONIX](#) processor. HOLOPHONIX then distributed the material across 80 loudspeakers installed throughout the church.

Operating in parallel, the lighting system consisted of 43 DMX fixtures controlled by the open-source [BlinderKitten](#) lighting console and pre-visualized in Blender with [BlenderDMX](#).

Coordinating all these systems required a reliable spatial reference. A speaker, light fixture, diffusion zone, or architectural element could not exist in slightly different positions across separate platforms. Even small discrepancies could affect how a voice appeared to move through the building or how a beam of light aligned with the soundscape.



The Rhino 8 model of the Saint-Laurent church, containing the simplified venue geometry, 80 loudspeakers, 43 lighting fixtures, diffusion zones, and scenographic annotations.

For this reason, the team placed the entire spatial design inside a

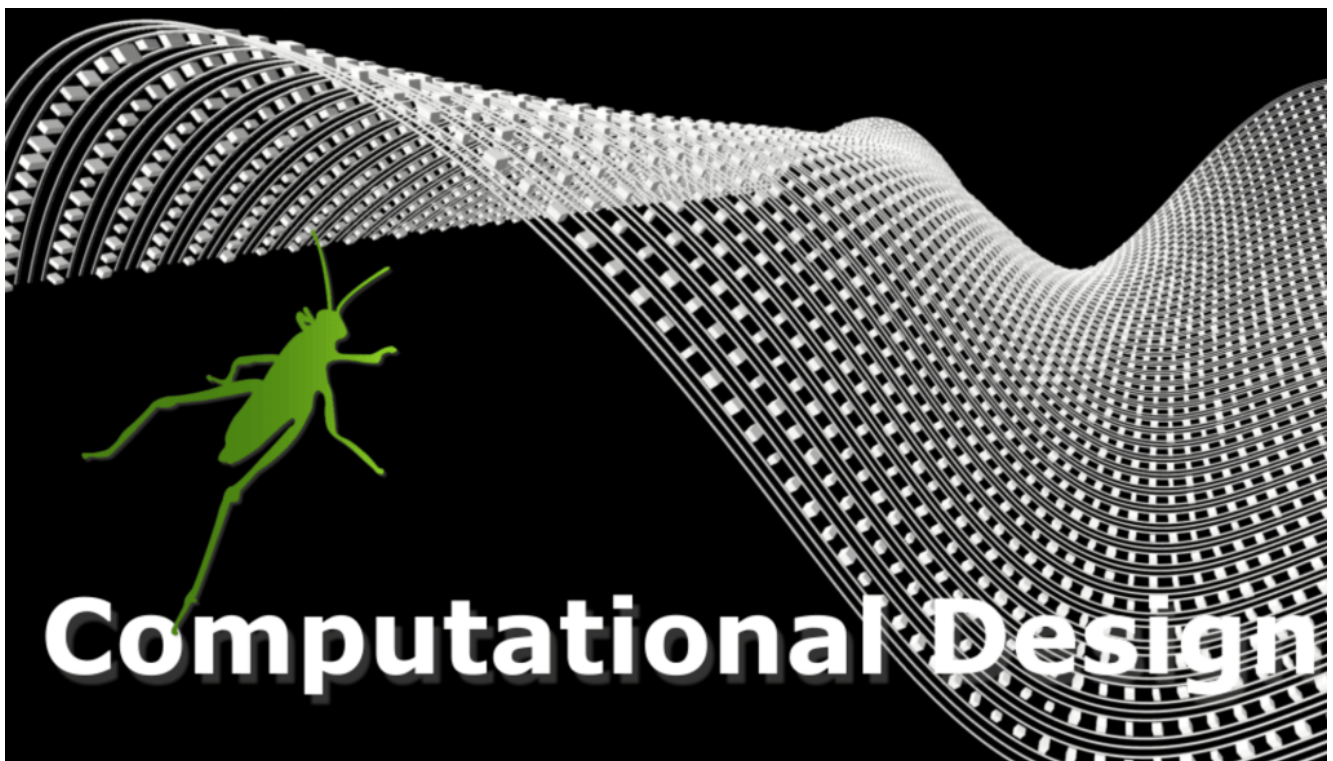
single [Rhino 8](#) model.

The simplified church geometry, loudspeakers, lighting fixtures, diffusion zones, and technical annotations were all maintained within the same file. Rhino became the project's single source of truth, connecting architecture, scenography, sound, and light through a shared three-dimensional environment.

Speakers and fixtures were inserted as block instances and organized through a strict layer hierarchy. Their technical information was embedded directly into the model as user attributes.

For the audio system, the Rhino layer color determined how each speaker appeared in HOLOPHONIX, while optional identifiers prepared the routing structure. Lighting blocks carried information including fixture identifiers, GDTF profiles, operating modes, and channel counts.

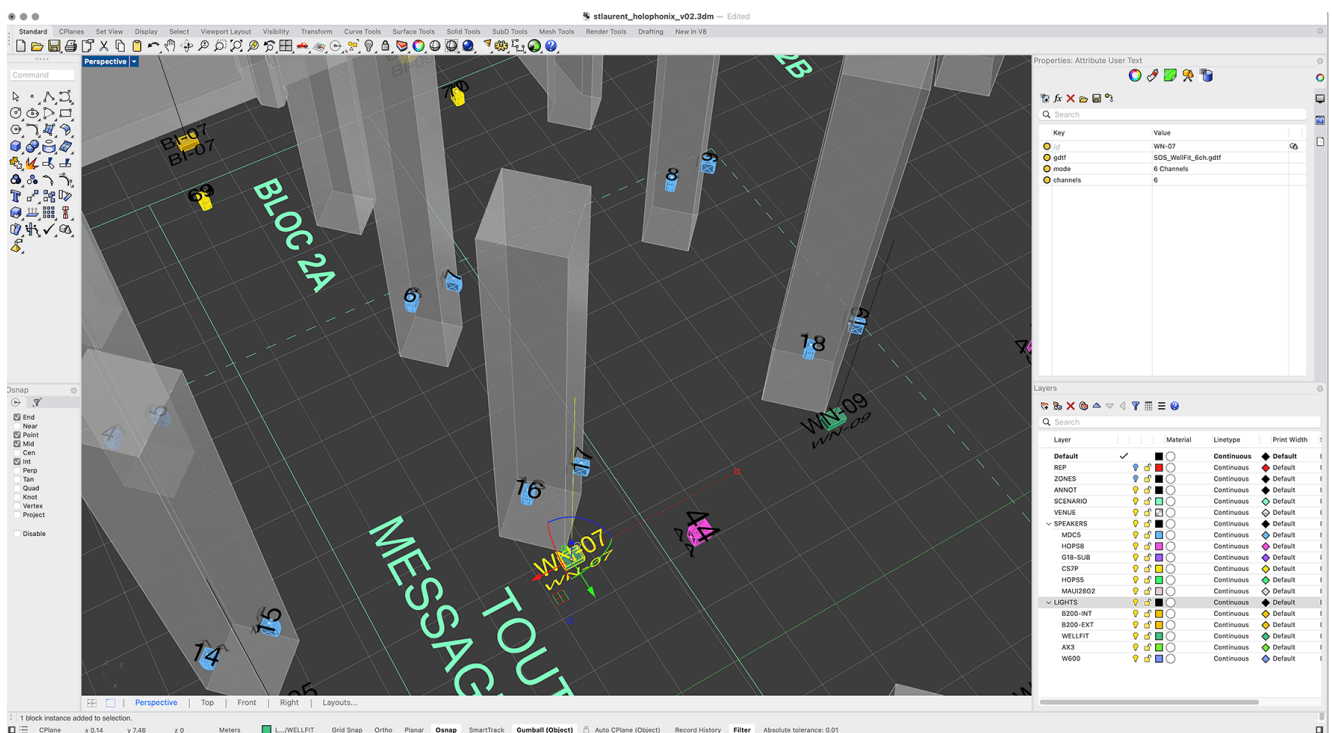
Two custom [Grasshopper](#) tools translated this spatial information into the formats required by the performance systems. Each definition was built around a [GhPython](#) component and designed to automate a specific part of the workflow.



[See Also](#)

The first tool, [holophonix_export](#), reads the speaker block instances stored under the relevant Rhino layers. It extracts each speaker's transformation, converts its position into meters, and derives its orientation, azimuth, elevation, and distance.

Grasshopper then exports a CSV file in HOLOPHONIX's native format, together with a GLB model of the venue. The church geometry and all 80 speakers can therefore be imported into the spatial-audio environment from the same Rhino source.

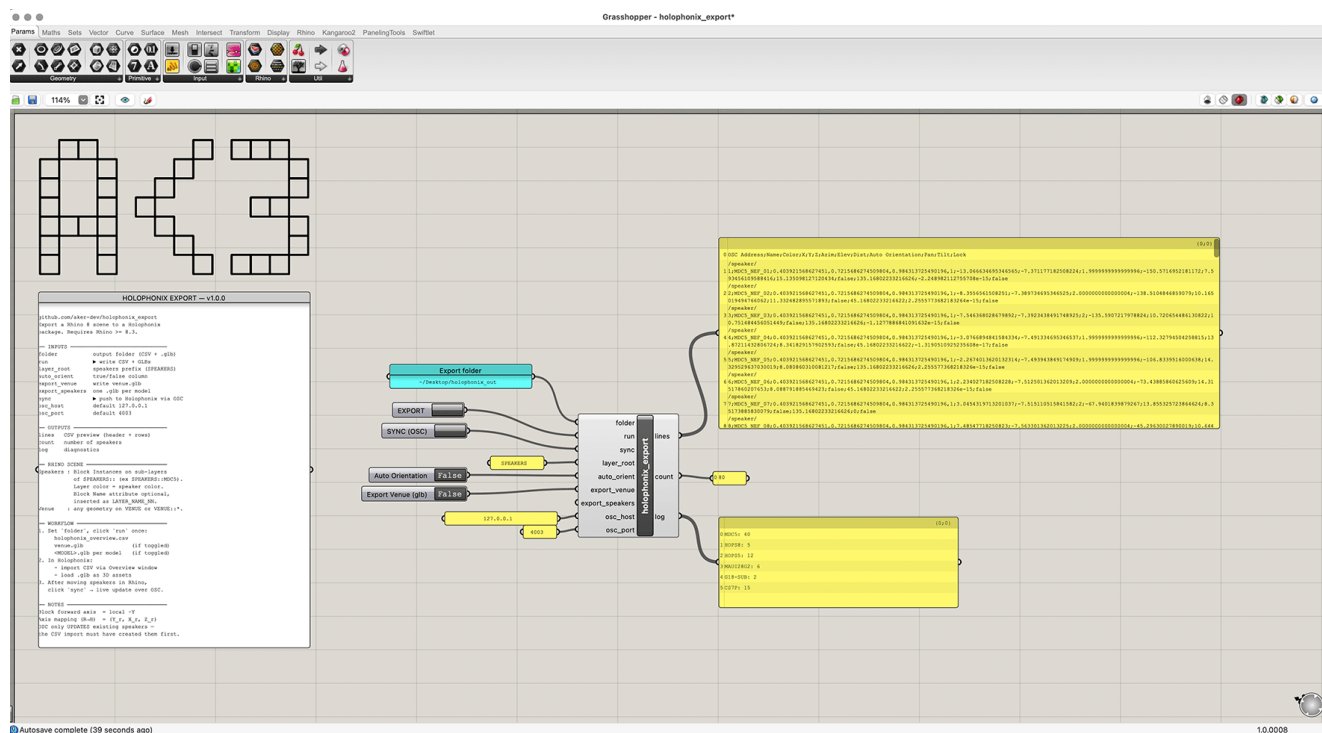


A lighting fixture stored as a Rhino block instance, with user attributes defining its identifier, GDTF profile, operating mode, and channel count.

The tool also includes a live synchronization function. During installation and calibration, changes to a speaker's position, orientation, or display color could be sent directly from Rhino to HOLOPHONIX over OSC. Moving a speaker in the model immediately updated its corresponding position in the audio system, avoiding repeated manual entry.

The second tool, [dmx_export](#), applies a similar workflow to lighting fixtures. Fixture blocks are sorted according to their Rhino layer and identifier, while Grasshopper automatically assigns DMX addresses based on each fixture's channel count.

This means the complete lighting rig can be repatched simply by changing the layer order in Rhino and rerunning the definition.



The open-source *holophonix_export* Grasshopper definition extracts speaker positions and orientations from Rhino, generates the required CSV and GLB files, and enables live synchronization over OSC.

The tool exports a CSV patch table, a JSON file containing fixture positions and pivot directions, and a GLB representation of the venue. Inside Blender, a companion script reads this information. It recreates each fixture through BlenderDMX, automatically assigning its GDTF profile, mode, universe, and DMX address before positioning and aiming it in the scene.

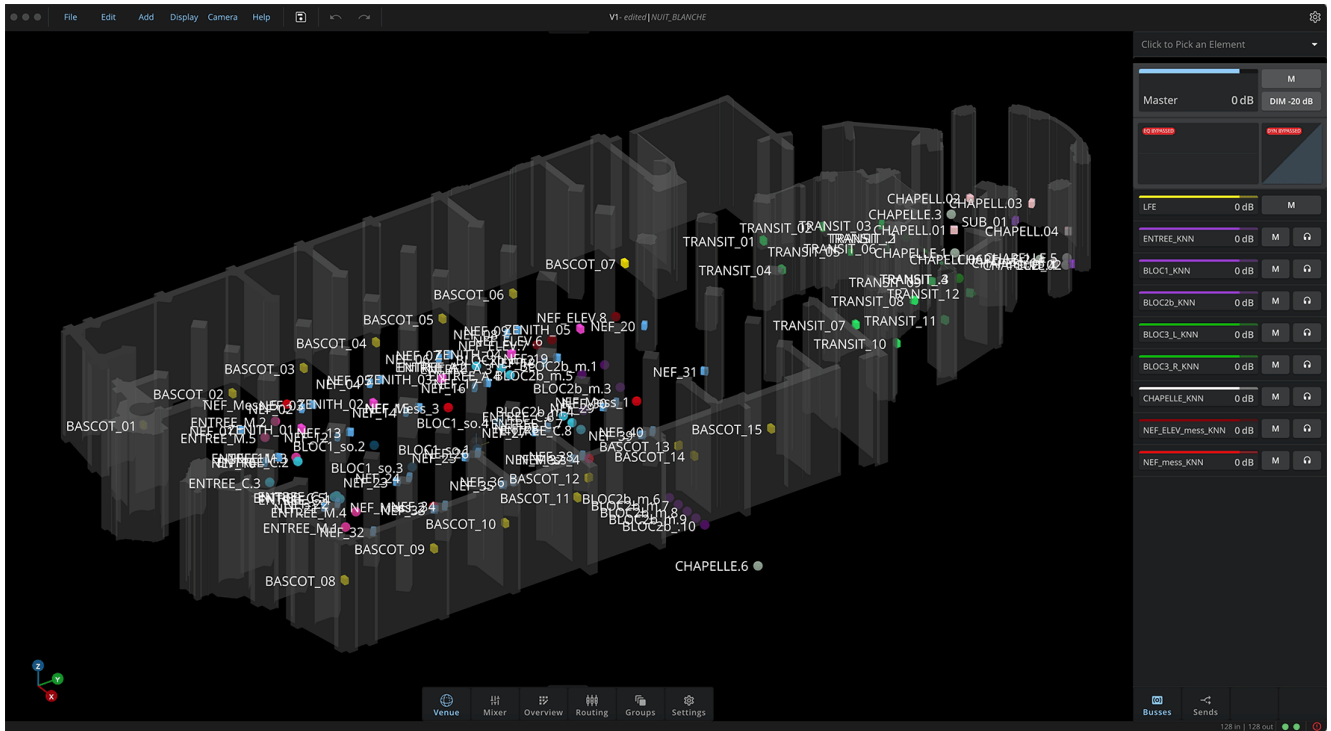
BlenderDMX was then connected to BlenderKitten through live sACN input, allowing the team to previsualize the same lighting states that would later be sent to the physical fixtures.

The pipeline required several coordinate systems to work together. Rhino uses a Z-up convention; glTF uses Y-up; HOLONIX uses Y-

[illegible]

This preparation was essential because the physical installation operated under an extremely compressed schedule. The team had only one day for load-in, setup, and testing, followed by a single evening of operation and an immediate load-out.

Using [Rhino](#) and Grasshopper as the central coordination environment did more than reduce setup time. It allowed the work's technical structure to support the artistic intention.

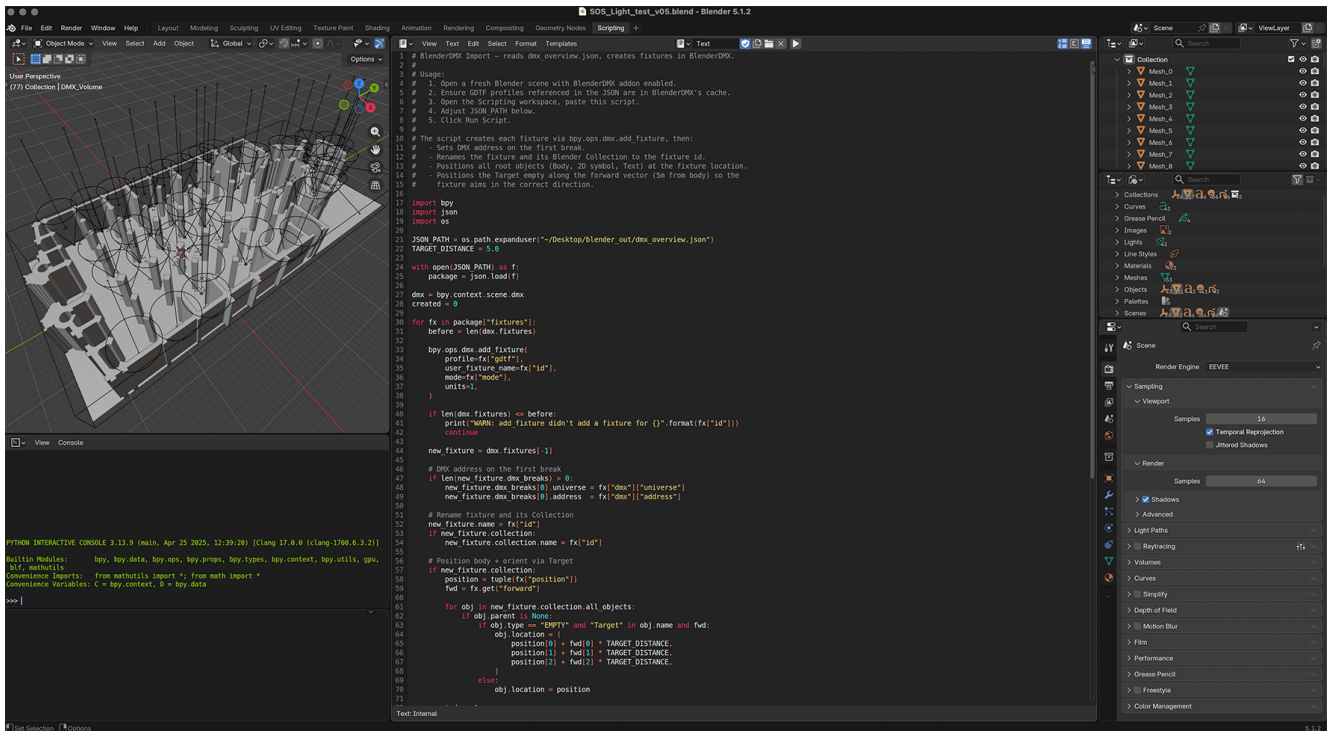


The Rhino venue geometry and speaker layout imported into HOLOPHONIX, creating a shared spatial reference for the installation's 80-channel loudspeaker system.

Because sound and light originated from the same spatial model, a recorded wish could move through the architecture with precision while remaining connected to the surrounding visual atmosphere. Rather than functioning as an independent layer, the technology shaped how the project's invisible material became perceptible.

The same data-driven approach also makes the installation adaptable rather than tied to a single venue, allowing its spatial configuration to be regenerated for new architectural and technical conditions.

The workflow produced the 80-speaker version presented at Saint-Laurent church and was later adapted to a 12-speaker configuration shown in Le Soler, near Perpignan, in July 2026.



A companion Blender script reads the files generated by Grasshopper and automatically creates, positions, aims, and assigns GDTF profiles to the lighting fixtures in BlenderDMX.

Both Grasshopper tools—**holophonix_export** and **dmx_export**—have been released as open-source projects under the MIT license. AKER plans to continue using and developing them for future versions of S·O·S, with features such as MVR support among the possible next steps.

By modeling the space once and allowing Grasshopper to translate it across audio, lighting, and visualization systems, the project maintained a continuous relationship between physical architecture and digital information.

In S·O·S, this precision ultimately served something deliberately intangible: thousands of private voices, carried through a church as if moving beneath the surface of the sky.



On-site operation and calibration during Nuit Blanche 2026, connecting the digital spatial model with the audio and lighting systems installed inside the church.

CREDITS

Artist: Marie-Luce Nadal

Work: S·O·S, Skin of the Sky (Sous la peau du ciel), 2026

Technical architecture and development: Adrien Revel

Soundscape: Arthur Doué, composer; Alexander Maxwell, sound engineer

Spatialization and Max development: Matteo Bonnasse

Audio processing: Raphaël Revault

Production partners: AKER, Manifestation Station, Racine du Ciel

Technical partners: Holophonix, Twilio, blitzortung.org

With the support of: DiCRéAM and Fulcrum Arts

Photography: © Brice Pelleschi / ADAGP, 2026

Special thanks to Dr. Nadia Guerouaou, Paroisse Saint-Laurent (Paris 10e), Dorothee Barba, Marie Vasconi and the Conservatoire Charles Munch