

# CYMOPOLEE

A tornado of light for public spaces

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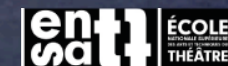


Festival International des arts numériques

**CONSTELLATIONS**  
DE METZ



Geneva  
Lux  
Festival



Oeuvre réalisée grâce au soutien  
de la CNR.

En coproduction avec  
La Fête des Lumières de Lyon,  
Le Festival Constellations de Metz,  
Les Lumières de Saint Gervais et  
Geneva Lux Festival.

Avec le soutien de l'ENSATT

# CYMOPOLÉE

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## Artists :

Light design : Benjamin Nesme  
Structure design : Marc Sicard  
Metalworks : Jérémie Hazael-Massieux  
Music : Camille Rocailleux  
Sound design : François-Xavier Weber

Distribution : Caroline Bernard

Production : Luminariste

Patronage : CNR - Fêtes des Lumières de Lyon  
Coproduction : Festival Constellations de Metz  
Festival Geneva Lux  
Festival Lumières de St Gervais les Bains

Year of creation : 2022

Public : General public

## Technical definition :

### Dimensions :

Height : 8,7 m / 27 ft  
Width : 5 m / 16 ft  
Duration : Autonomous, 10mn loops.

### Weight

Tornado 600 kg / 1 330 lbs  
Base 500 kg / 1 100 lbs  
Lest 1 600 kg / 3 500 lbs  
Total 2 700 kg / 6 000 lbs

### Location :

Exteriors spaces, with ballast  
Interior, without ballast

Installation duration : 3 days

Workforce : 2 artists, 1 technician, 1 stage manager, 1 distribution agent

Power : 32A tetra

Sound system in the base : 8HP + 1 subwoofer - Smoke machine

Weather proofing : windproof for 100km/h, waterproof

Materials : Galvanized steel, powder painted aluminum, Neonflex, controllers, speakers, water ballast in barrels



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## By day

Like a tornado still life,  
an arresting, 8.7 meters sculpture  
stand alone in the city streets.

Challenging the viewers.

Why is she appearing under our climates ?

## Public

All public  
Standing crowd,  
Maximum attendance depending of location

## By night

Tornado lights up. movements of winds and rain are represented by  
sound and light movements and trajectories..

From afar, onlookers witness a tornado of light  
that illuminates the street around it.

Closer to the installation, they can walk around  
and immerse themselves into a maelstrom of lights and sounds.

## Duration

10 mn loops.  
integration of safety/information messages  
Autonomous.



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**Cymopolée** is an art installation that enforces a tornado in the city.

**Cymopolée** shows a light-emitting tornado, a weather phenomenon that rarely appears under our latitudes.

Reports from WWO shows that hurricanes will become stronger, slower and will operate on a larger area.

Data from IPCC reports gave us a workframe for a scenario both in lights and music : on one hand, a naturalist picturing of a tornado going over a town, from radio warnings till its departure, going through different climaxes, and moment of serenity.

On the other hand, this narration translates emotions related to global warming and human responsibility : fears, angers, nostalgia, hopes.

Beyond catastrophism, **Cymopolée** stands as a contrast of a feeling of emergency and a pause for reflection.

**Cymopolée** conjugates savoir-faire artisanal et virtuosité digitale : à la nuit tombée, cette structure métallique monumentale prend vie grâce à sa luminosité propre, ondulant au gré des vents qui composent l'ambiance sonore.

A poetic symbol for a new deal.

*Kymopoleia is the Greek goddess of storms and weather disasters*



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## References

A tornado is an isolated funnel-shaped whirlwind of wind with its tip pointing toward the earth's surface. Upon touching the ground, it takes on the appearance of an almost vertical orientation column, but flexible and horizontally mobile.

They can be born under cumulonimbus clouds of sufficient size, particularly in the context of large-scale geographical and physical phenomena such as hurricanes.

Hurricanes usually form in the subtropical area, between the Tropics of Capricorn and Cancer.

## Directions

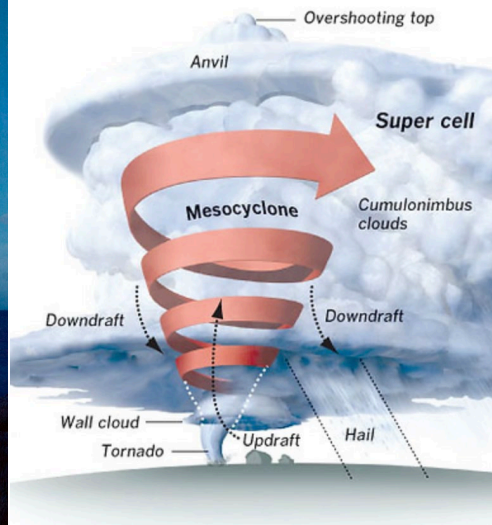
ITCZ will grow and be of concern for larger, more densely populated areas, often less prepared.

Hurricanes are well-known, studied and monitored : the evolution of their zone of action and their intensity makes it possible to highlight the problems of the human impact on the climate, through a figure that is both aesthetic and fascinating in its image, but also disturbing and horrifying in its physical manifestation.

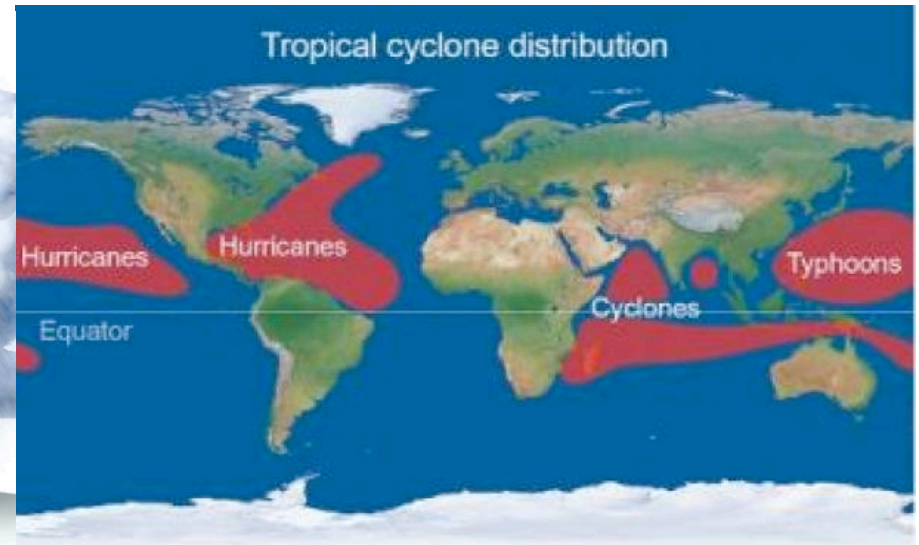
The tornado, a direct, visible and violent phenomenon will bear the symbolism of the stakes of these future changes..



Martin Kimbell - Light Painting



Hurricane and Tornado



Inter-Tropical Convergence Zone



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*Our approach is based on a permanent exchange between the virtuosity of digital tools and the humanity of craftsmanship, technicality at the service of the sensitive.*

## Art direction / Digital

For this project, we will use pixel-mapping technology through 272 m of matrixed led strips.

The tornado will thus be composed of more than 2500 pixels.

To animate these pixels, we will transcribe the data into particles of light, sensitive to physical phenomena. These particles will be animated in three dimensions and subjected to the force of winds and whirlwinds, like a digital wind tunnel.

The result of this simulation will be mapped onto the tornado.

The tornado itself was sculpted in 3D before it came to life in the hands of craftsmen.

## Art direction / Artisanal

In addition, we want to anchor the virtuality of this data within a physical object, made by hand.

Working with Jérémie Hazael-Massieux, craftsmen, steel worker and costume designer, we weave the metal to give Cymopolée organicity and naturality.

The work will thus be produced in the form of a metallic mesh whose contrast between rigidity and malleability makes it possible to constitute an airy, filigree frame.

This network will serve as a support for the light stripes.

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## Art direction / Music

A tornado, a cyclone, a vertical, high, spinning, luminous, noisy object...

This monumental object comes to life thanks to its own luminosity. It is an entity that impresses the eye. The sounds associated with this object must match its dimensions, both strong and fragile, powerful and delicate.

Beyond a research on the sound of a cyclone, it is the environment around this object that seems interesting to question with the sound.

In what space is this tornado moving?

The environment where this luminous element revolves is also ours. We, spectators, citizens, humans. It is from this point of view that the sound space can unfold, like a tense link between our environment and this climatic object.

## Art Direction / Sound design

First of all, a work of recording concrete sound materials:  
wind in the trees,  
rushing wind,  
shivering wind,  
wind that rattles the sheets,  
wind whistling and howling  
musical wind,  
...until the calm after the storm.

Then, these materials are mixed and diffused in space, so as to increase the scenography, thanks to Axa.

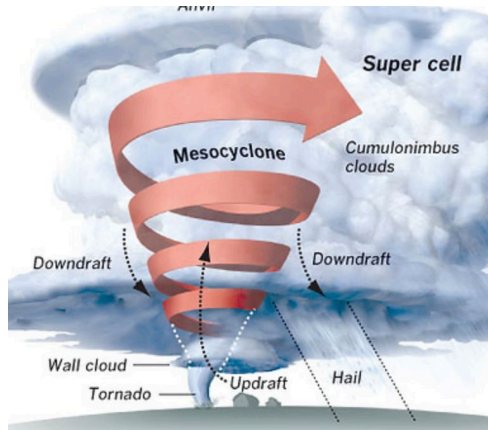
Axa is a program developed under Max/Msp by François Weber, which allows a writing of sound spatialization for live performance. Based on three different technical principles (Matrixing, Ambisonics, DBAP), the development choices were made in order to offer a «multiple distribution» of audio streams in the space of a scenography.



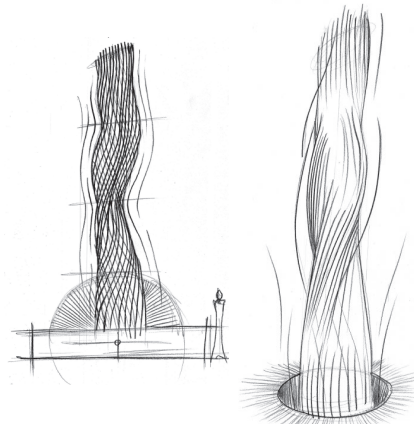
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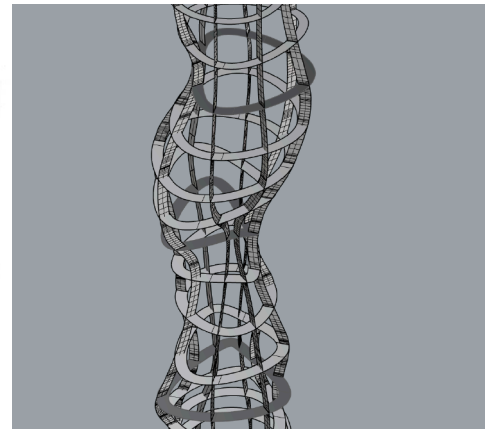
## Creation process



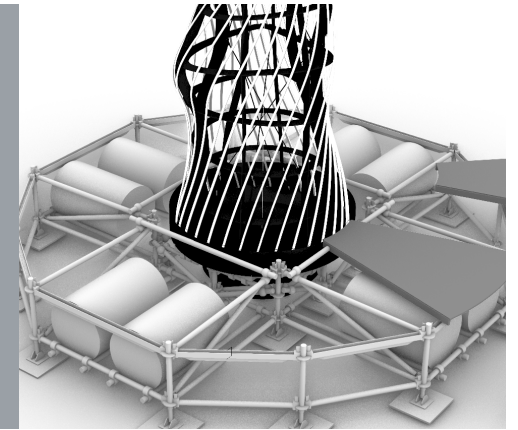
References-Information



Sketches



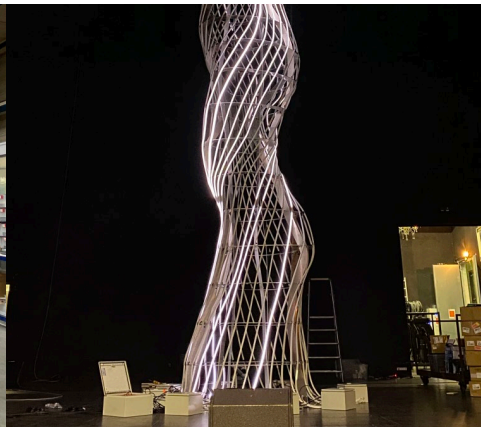
Technical design



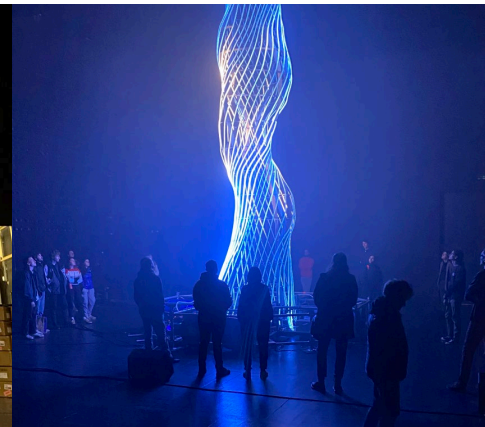
Technical proofing



Building



Testing



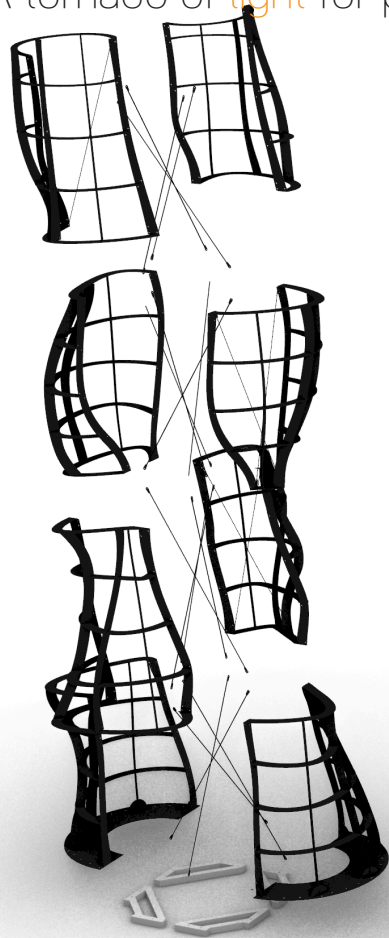
Light and sound design



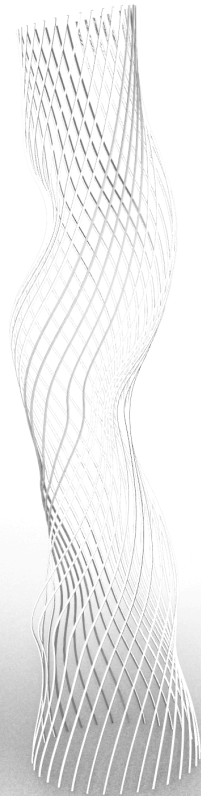
Installation

# CYMOPOLÉE

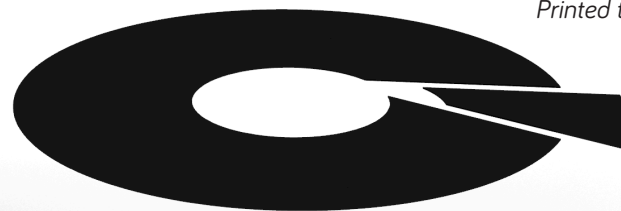
A tornado of light for public spaces



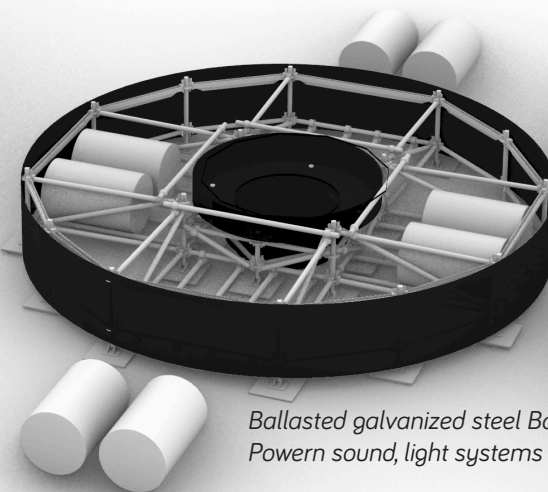
S4/6mm Aluminum waffle structure  
Powder painted.  
Four segments, in half-parts  
Steel  
Steel tie rods.



32 matrixed LEDs strips



Aluminum  
Printed top shelf



Ballasted galvanized steel Base  
Power sound, light systems



Windproofed for 100km/ winds  
10mn sequences  
Automated



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## Implantation

Cymopolée settles in the urban or natural public space..

It can be set in the center of an open space (square, park, etc.) or above water to stage its reflections.

The work is autonomous.  
(Ignition and extinction to be planned or automated)

Dimensions of the work  
8.7m high  
5m base

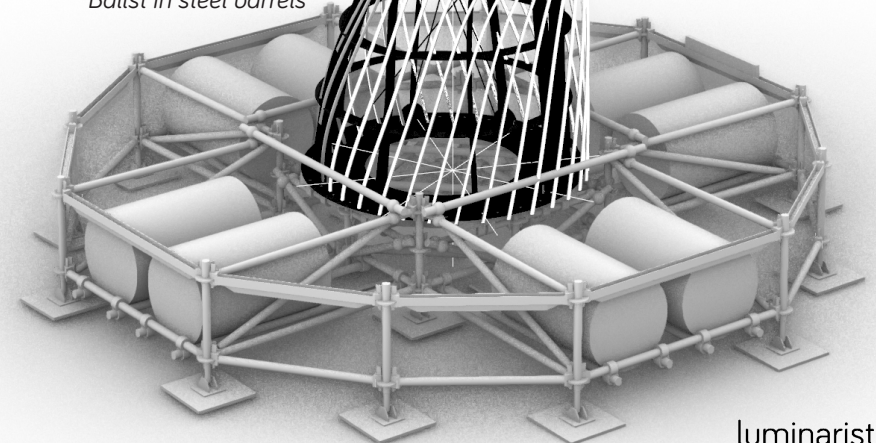
The base is placed on jacks and can correct slopes of a few degrees.

*S4/6mm Aluminum waffle structure  
Powder painted.*

*Four segments, in half-parts*

*Steel tie rods.*

*Base Layer  
Acier galvanized steel  
Ballst in steel barrels*



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## Light System

### Innovation and technology transfers

Cymopolée is a scenographic object, housing two essential elements:

-the multimedia control room which pilots and coordinates the light sequences (several thousand pixels that make up the tornado), in connection with the multicast and spatialized sound sequences, to reinforce the feeling of immersion.

-The luminous profiles (matrixed LEDs) wraps on the tornado. These profiles are selected by us, to maximize pitch and fineness of light transmission. Thus, we can reproduce as faithfully as possible, by light, the variations of atmospheric intensity.

### Sustainable design

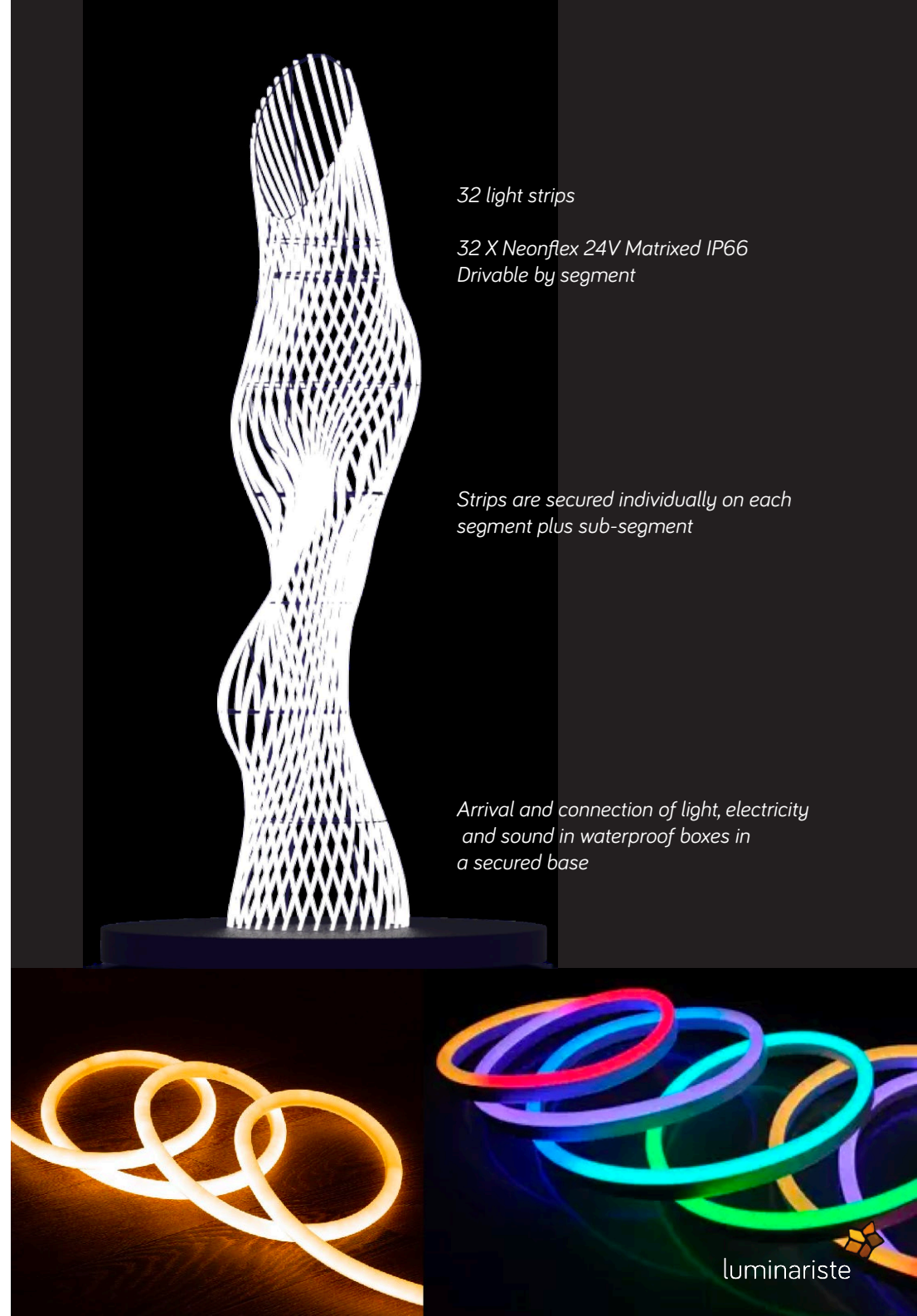
The project is designed with a high concern for sustainability.

A circular economy project: all the stakeholders are located in the Lyon Metropolis, making it possible to limit the environmental impacts linked to logistics, during the design and manufacturing phases.

We want to limit transport by producing objects in series, designed to be easily stackable and to limit the volume of transport and storage.

We favor solutions that minimize the carbon footprint, waste, consumption and pollution.

All efforts in this direction are welcome.



32 light strips

32 X Neonflex 24V Matrixed IP66  
Drivable by segment

Strips are secured individually on each segment plus sub-segment

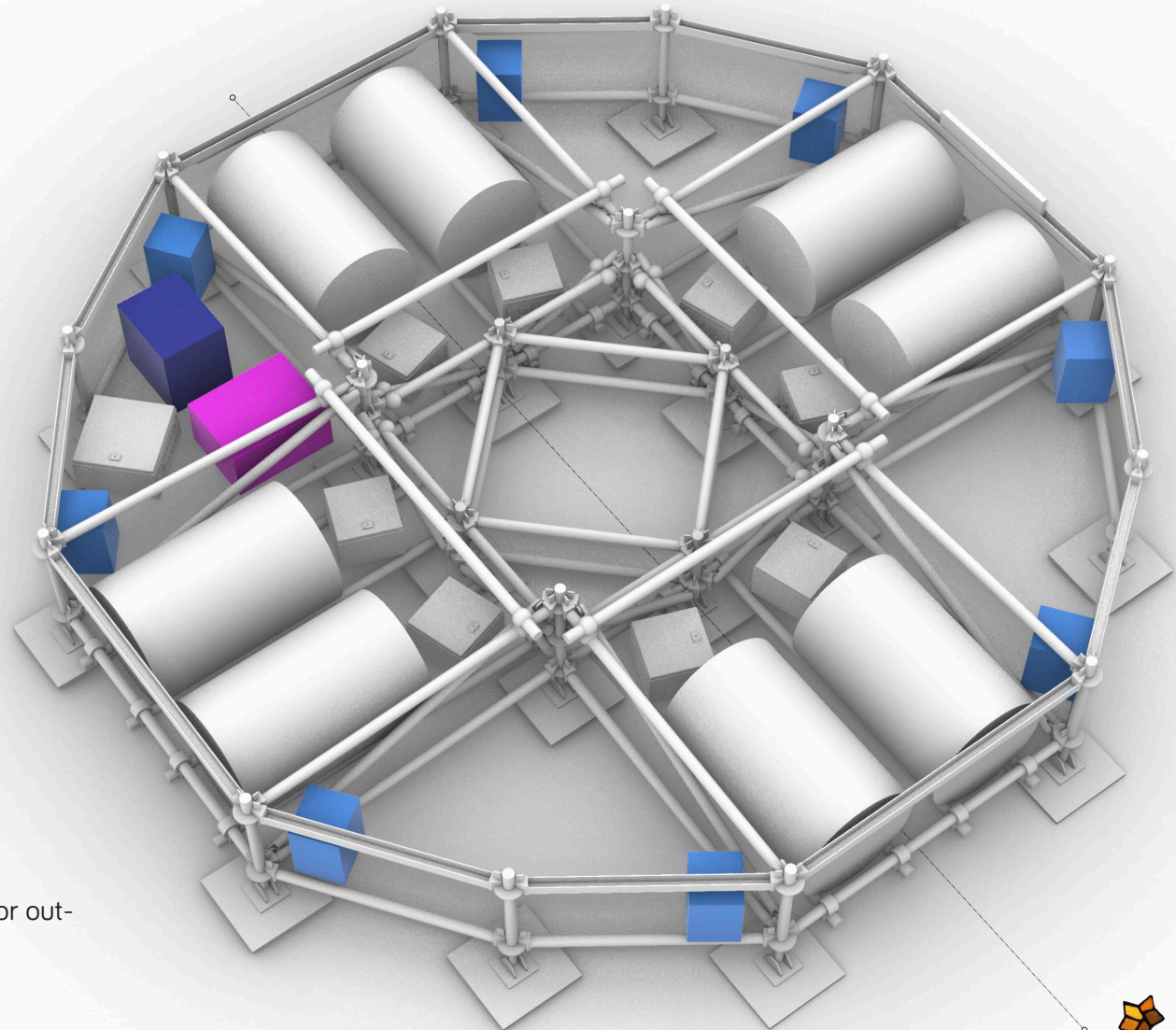
Arrival and connection of light, electricity and sound in waterproof boxes in a secured base

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## Sound System

In the protected base, 8 speakers and a subwoofer allow local diffusion, with a spatial effect, at a sound level that can be adapted according to the location.



NB: This device can be replaced by a more powerful unit, spatialized, studied to measure according to the location (indoor or outdoor).



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## Information display

On the twelve-segment top-plate, information about hurricanes is displayed on twelve panels.

This speech contains information on the birth conditions of a hurricane, their power, and evokes their monitoring, and also the material and human havoc they cause.

Spectators can choose to immerse themselves in the swirling spectacle or getting information at their own pace, by walking around the installation.



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## Housing Cymopolée

### Location discovery

36h on the spot, at least 2 months before the show.

A night visit to the sites is planned with your teams to define the location of Cymopolée in order to prepare the installation files.

Scouting is also an opportunity to meet partners for the mobilization of the public and the preparation of cultural actions.

### Arrival

J - 2

Van and trailer plus 20m<sup>3</sup>, truck, parking to be provided.

4 people

### Installation

Team day D - 2: 2 services (building base and tornado, power, lights, sound)

Team, day D - 1: 2 services (programming sound and lights)

Team, day D: 2 services (synchro and sound check)

### Exploitation

The work is autonomous. Presence of a member of the team for technical on-call and mediation.

Security required during days and nights.

### Disassembly

2 services, the day after the last show.

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## Luminariste

Benjamin Nesme (light designer and stained glass artist) founded Luminariste with the desire to mix the fields of application of light: spectacle and architecture, crafts and digital, by surrounding himself with the specialists better suited for each project.

The meeting with Marc Sicard (illustrator and designer) crystallized a desire to tell tailor-made stories for the public space.

In an process close to the Arts & Crafts, wishing to put art at the service of the city and its inhabitants, we are inspired by places and events to tell lush and phantasmagorical, elegant and questioning stories.

Poetic moments.

Our approach is based on a constant back and forth between the virtuosity of digital tools and the humanity of craftsmanship in order to put technicality at the service of the sensitive.

### Common denominators of our facilities:

Projections:	Project, generate, show, animate
Organic:	In connection with the place and its environment
Artisanal:	Analog-digital exchange
Imaginaires:	Telling a story or giving support to
Popular:	For all audiences
Sense of wonder:	A moment out of time

### Références :

- 2021 Chartres En lumière : MétamorFaune
- 2021 Roubaix en lumière : La piscine Museum 20 years anniversary
- 2021 Fête des lumières de Lyon : Visions
- 2021 Chartres En lumière : La nuée céleste
- 2022 Constellations de Metz : L'envol
- 2022 Fête des Lumières de Lyon - Cymopolée  
Cité du Vitrail - InSitu  
Lumières de St Gervais - Cymopolée
- 2023 GenevaLux - Cymopolée  
Constellations de Metz - Cymopolée



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## Talents

### Benjamin Nesme

Benjamin Nesme is a light and video designer. A graduate of the Ecole Nationale Supérieure des Arts et Techniques du Théâtre, he composes light and video for more than forty creations in prestigious venues: TNS, Le Chatelet, Philharmonie de Paris, Théâtre National, CDN, Opéra, in France and in Europe...

A second passion takes him to a Stained Glass Creation workshop, where he learns about the encounter between light and glass, the expression of colors, and the strength of contrasts.

As a synthesis of these experiences, Benjamin founded Luminariste with the conviction that the fields of application of light are multiple and complementary, while having a single leitmotif: Telling your story in light.

### Marc Sicard

An initial vocation as a boat designer, followed by training in industrial design led him to work for twenty years in packaging design, making perfume bottles, cognac bottles and other products, in the world of luxury where drawing and pattern still hold a large share.

In parallel with these works, he develops a personal research around animal art, and the creation of imaginary worlds, explored via maps, drawings and engravings.

### Camille Rocailleux

After a prestigious course at the CNSM in Lyon, he joined major orchestras, then quickly established himself as a multidisciplinary artist. A creator passionate about adventures off the beaten track, he collaborates with Jérôme Savary, Estelle Savasta, the singers Daphné or Camille, Judith Chemla, Hugh Coltman, Benjamin Biolay or the pianist Gonzales.

Attracted by the transversality of live performance, instrumental and lyrical writing in connection with hybrid forms and contemporary languages, and by the contribution of new technologies, he created the Compagnie EVER.

### François-Xavier Weber

François Weber has been working on theater sets since 1987. He has produced the sound or image for around fifty creations.

Alongside this activity, he has been teaching since 1997 at ENSATT (Lyon). Beyond technical or technological courses, questions of scenographic and dramaturgical writing are at the heart of these lessons. Developer of digital applications, he also participates in several research groups (Virage, OSSIA, etc.). These works are essentially linked to practices and tools in live performance.

Since the start of the 2019 academic year, he has co-directed the Sound Designer department at ENSATT with Maria Castro.

### Jérémy Hazael-Massieu

Jeremy Hazel Massieu is one of those Gyro Gearloose with an atypical background.

Trained as a costumer (ENSATT), he collaborates with the greatest opera houses, haute couture and cinema. Before adding a string to his bow: scenic locksmithing.

The metal becomes a thread that he braids with skill, rigor and poetry.

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