

Gijs van Bon



DROP of LIGHT

created in collaboration with ASML
for Glow light festival Eindhoven

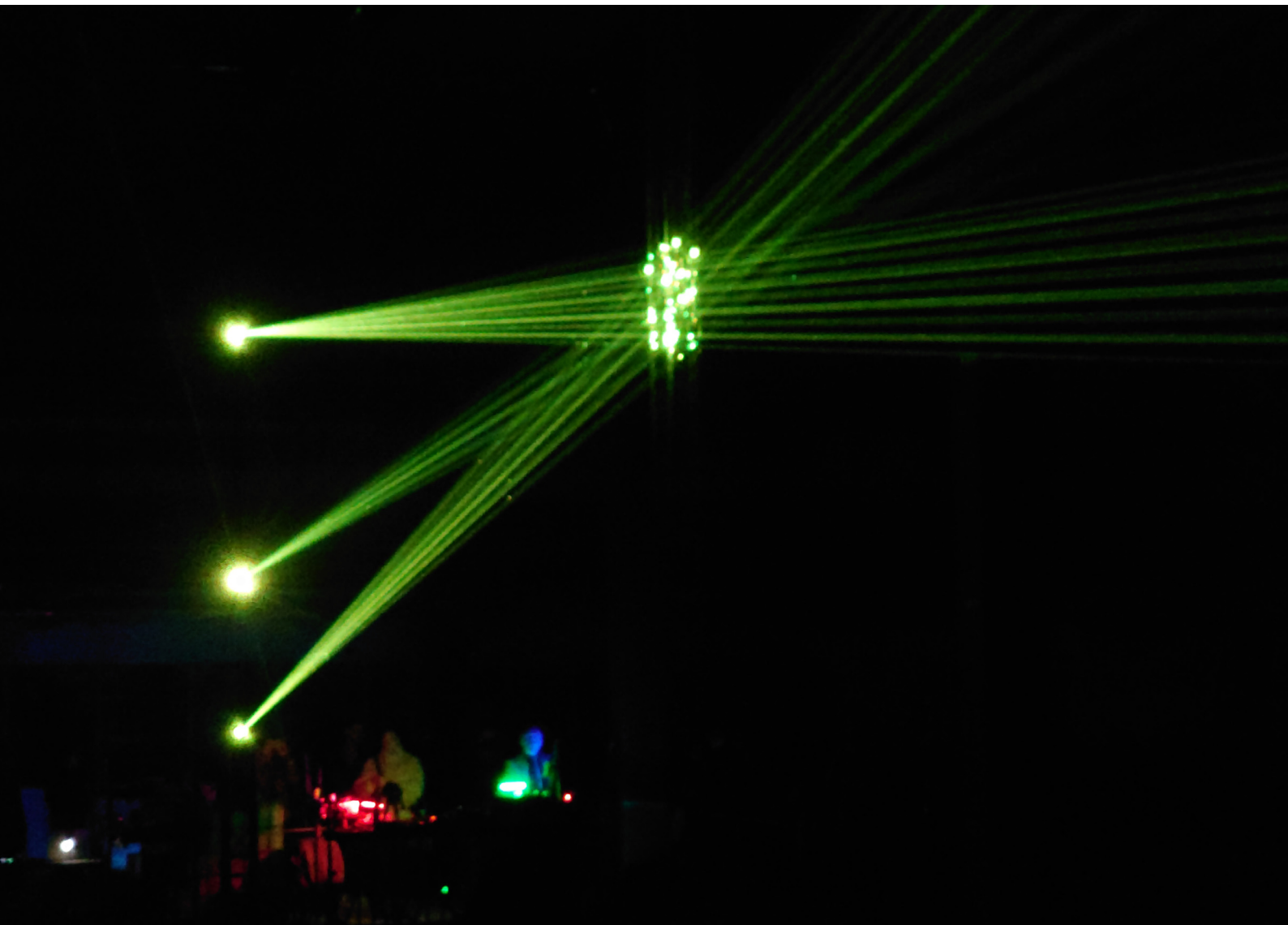
ASML
GLOW ■

DROP of LIGHT

Technical Rider

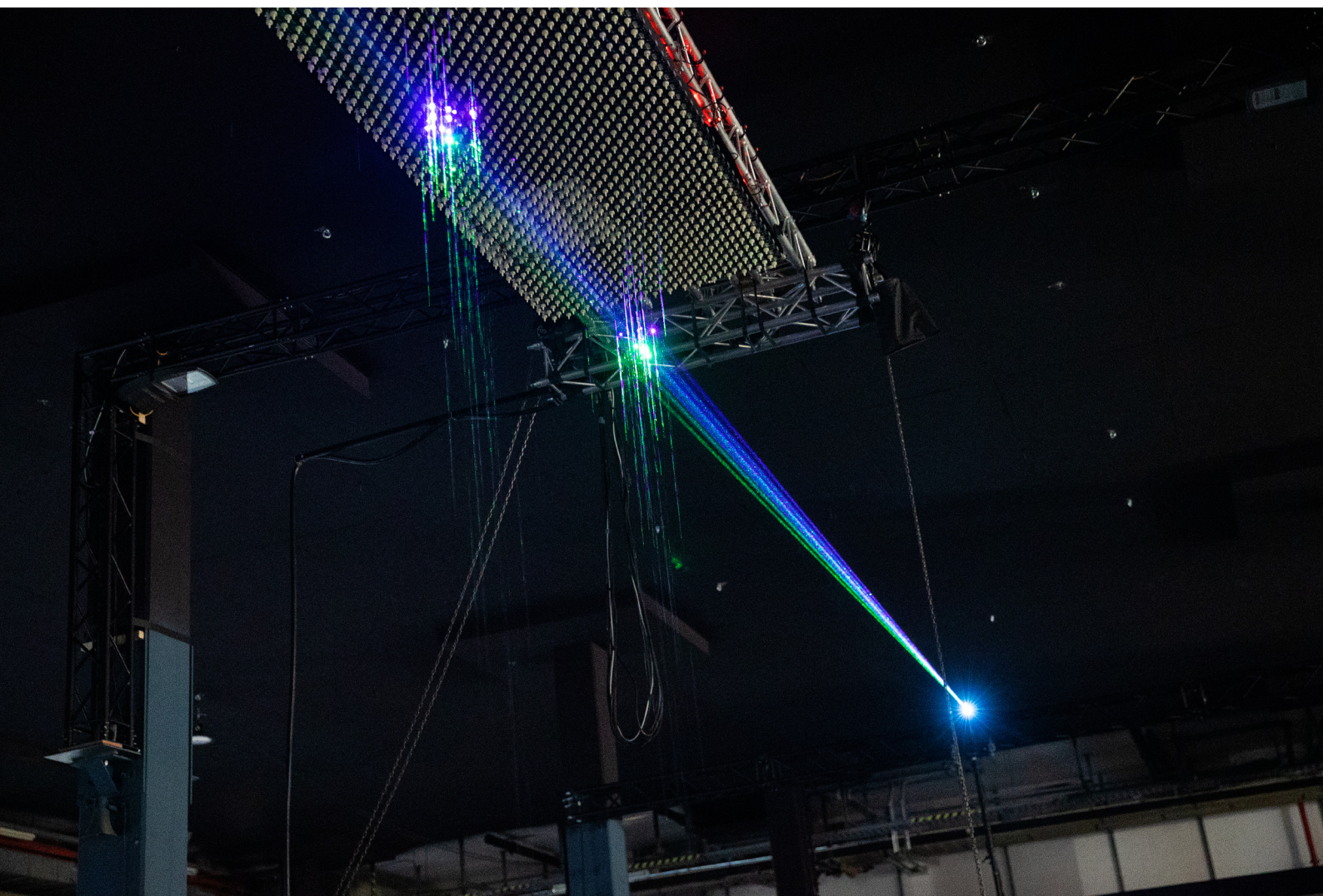
Content

- General information
- References
- The project
- Logistics, technical and safety information



General information

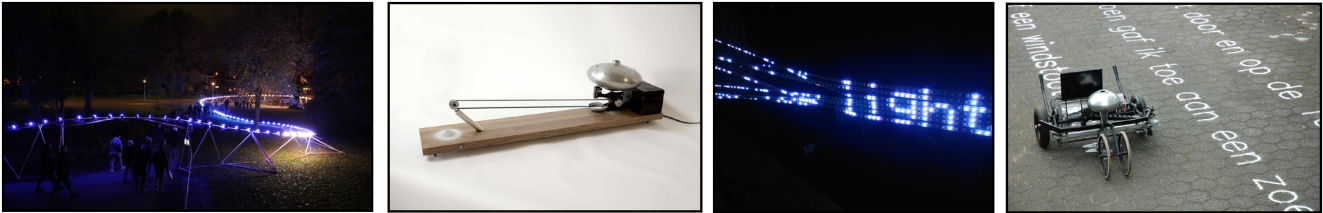
Name of the artist	Gijs van Bon
Project Name	DROP OF LIGHT
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About the artist

Gijs van Bon

The multidisciplinary objects and art installations of Gijs van Bon are always moving between theatrical and autonomous spheres. He combines these spheres and dissolves their boundaries in order to create vigorous objects that are full of life and simultaneously consist with both a poetic and delicate content.



Antoon Melissen, art historian & publicist

"Once in a while, time escapes and we can see something breathing, fickle, in a way unpredictable and autonomous - in case of Gijs van Bon's Time Moving Abstract Pieces, by the grace of an electric engine and some computer chips. Van Bon's kinetic objects are abstract and non-referential. Clapping, aiming, ticking and tapping, sometimes nervous other times meditative and slow, his works continue to reinvent themselves. The warm, poetic language of shapes of the cold, technical object leads to new relations between form, movements and time.

Another remarkable aspect is how the dynamic of van Bon's work intensifies the experience of watching: what is going on here, what are we seeing and, above all, what is the movement doing to our perception of shape, space and time."

Ronald Ramakers, creative director of GLOW Eindhoven

For GLOW director Ronald, 'Drop of Light' is a particularly special installation in the way that it combines art and technology. "It is a physical impossibility that becomes possible, and in doing so helps people to open up their imagination," he says.



DROP OF LIGHT - the project

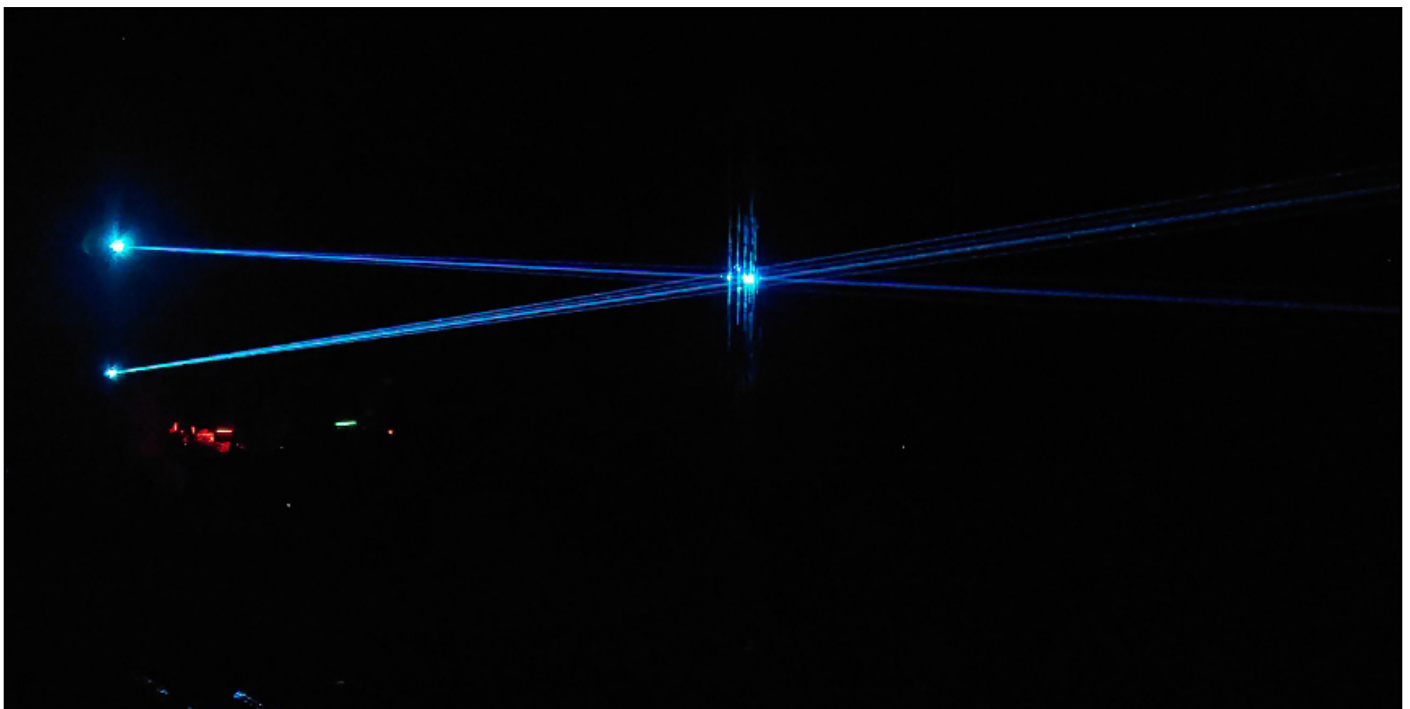
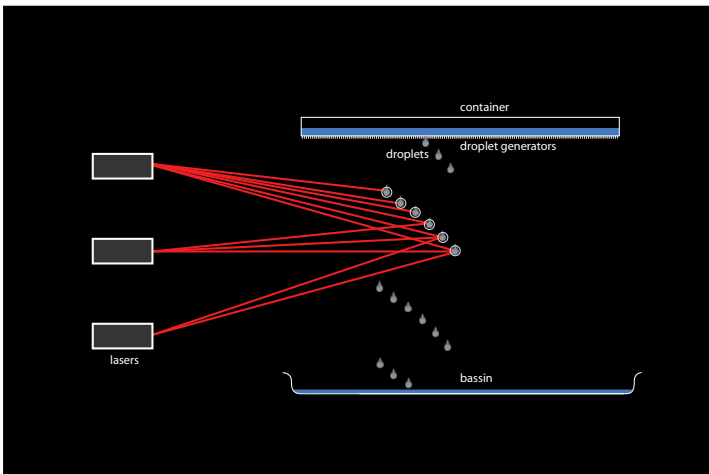
Just another day in the life of a drop of light: it dances, sways, twirls, flutters, hides, jolts and plays. This installation combines displays of fluorescent liquid, ultra-violet laser lights and a lot of math to breathe life into a drop of light.

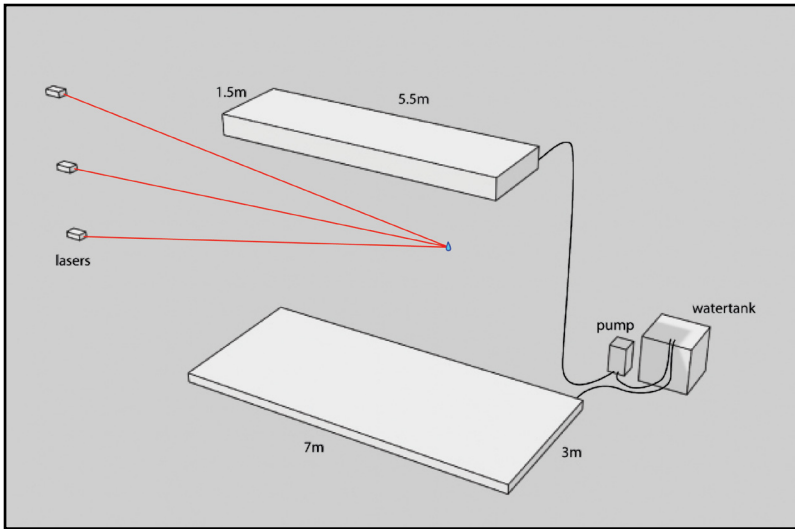
Dramatic in its execution and unfolding, Drop of Light occupies a unique space spanning sculpture, animation, art, technology and mathematics. The high-tech core at the heart of the installation generates a magical impression, drawing the viewer in through all the senses.

In a darkened room, a succession of droplets falls from an array of nozzles six meters above. Spattering noises accompany the first flashes of light in mid-air as UV lasers hit the streams of liquid. A soundscape swells, sometimes ominous at other times cheerful, as intangible light transforms into illusory orchestrations of three dimensional shapes that gradually expand, contract or sweep through the dark space.

DROP OF LIGHT was commissioned by ASML as part of the company's sponsorship of GLOW Eindhoven. The assignment was defined together with ASML and GLOW: to create a light installation that references ASML's innovative technology.

Drop of Light illustrates the fact that math and magic are never far removed. The idea for the installation originated in 2013 with the wish to create something never seen before: shapes projected in mid-air. A simple yet complicated wish because hitting a droplet just right – drops that are falling, moving and accelerating in space – proved to involve a high number of mathematical computations. The creation of Drop of Light required a coming together of specialists and a fusion of their visions and experiences. Shared artistic, technological and scientific knowledge made Drop of Light come true, but, as artist Gijs van Bon states: the magic was always there.





Workings

DROP OF LIGHT consists of eight fluid containers fit with 2,048 computer-controlled droplet generators. The containers must hang at least four meters above a basin, which catches the falling fluid and pumps it back up to the containers.

Three lasers at different heights are calibrated to shoot the falling droplets in a choreographed and animated way. Off to the side of the installation, an operator controls all the equipment through a laptop. Live music is played through modular synthesizers.



The making process: ASML and Studio Gijs van Bon

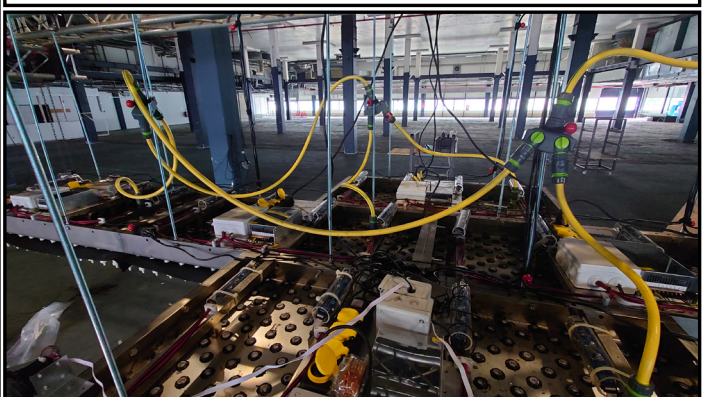
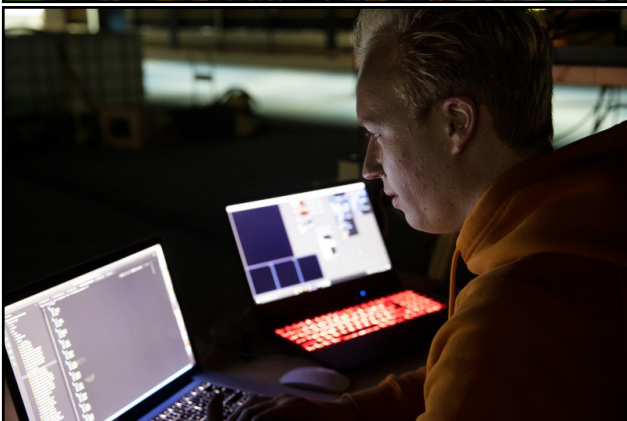
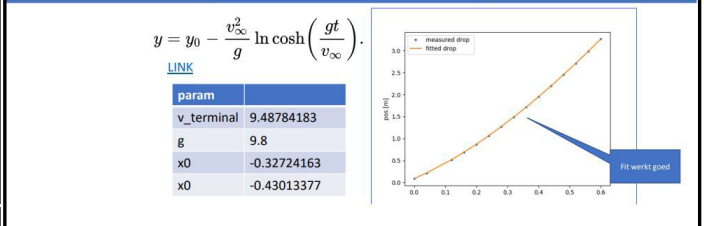
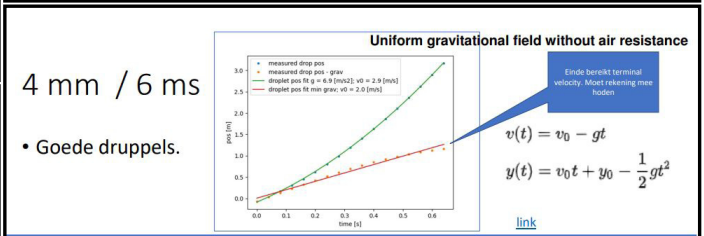
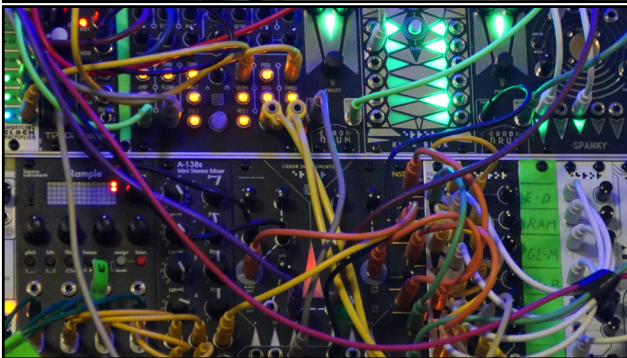
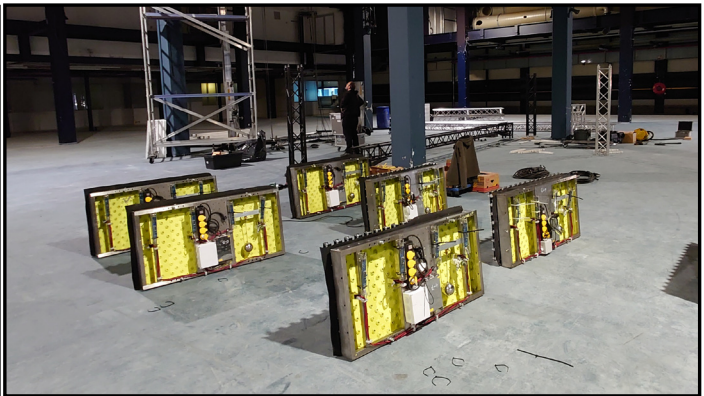
The technological features of 'Drop of Light' are, unsurprisingly given Gijs's interest in technology, complicated. The main components of the piece are droplet generators, which are very small valves that open and close quickly. As Gijs says, "the most important part is actually the speed of the computer controlling these valves."

Getting the speed just right to make these valves work as intended required the knowledge of Roland Blok, former project manager with ASML, about accuracy and measurements, in combination with coding and computer programming.

For Roland, it was the multidisciplinary work that was most interesting. "Also," he says, "having a new technical problem involving physics, software and measurement, then having to investigate, iterate, test and see results."

Of course, there were several hurdles on the journey to the final piece, prototype #13. Trying to shoot light at moving droplets in an open environment with so many variables is almost impossible. But whenever Gijs needed advice or support, Roland and ASML design engineer Ugur Bagci were ready and willing to help. And throughout the process, both engineers were impressed by Gijs's passion and positivity. Whatever problem might arise during the design process, Ugur says Gijs chose to see it all as a challenge that needed to be overcome.

"There was no panicking during troubleshooting, just communicating openly and focusing on the next step." When it finally came time to demo the piece, the engineers and artist were delighted to see the artwork come to life with lights and sounds.



Logistics, technology and safety

Parts: eight suspended fluidcontainers (total of 5,5mx1,5mx0,5m), one fluidcontainer (1,000 liter) on the ground, fluidbassin on the floor (3mx7mx0.2m), pump on the floor with two hoses to the containers, three hanging lasers (2 watt) at different heights, laptop/server table, audiotable.

Hanging: The containers can hang from three trusses and need to be at a minimum of four meters high (depending on location). The eight containers measure 5,5 meters wide by 1,5 meters deep.

Sound: Drop of light has an abstract soundscape that accompanies the drops of light composed by Jurgen van Winkel. It is also possible, for additional costs and considering availability, to have a live set played by Jurgen during the event.

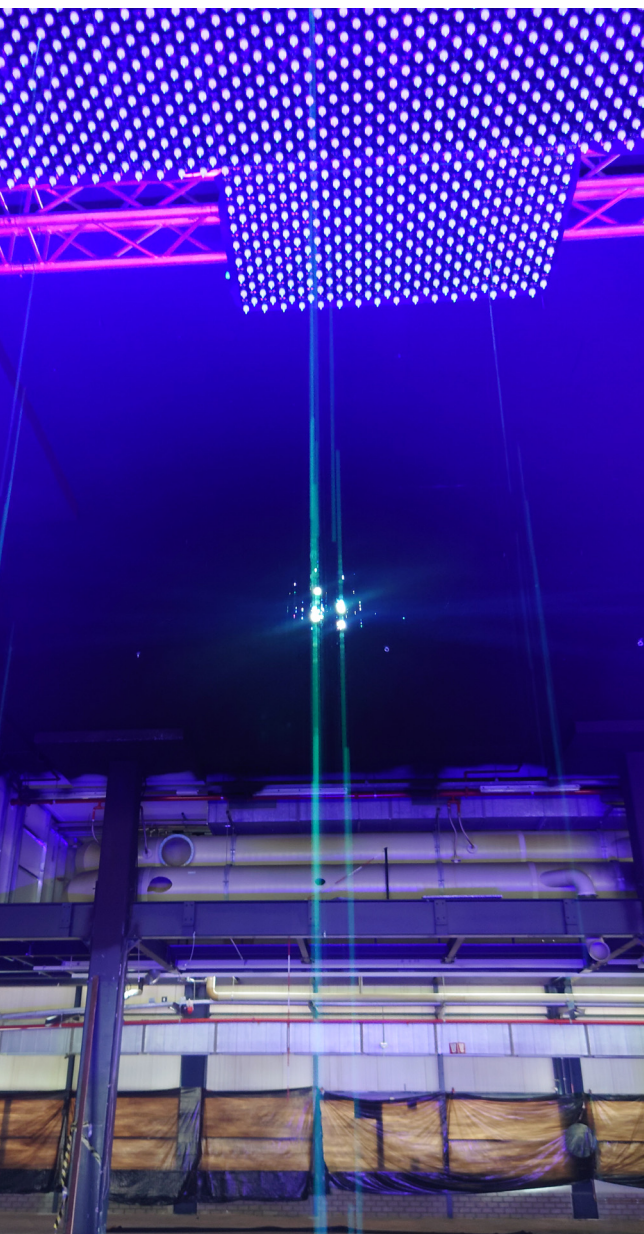
Duration of Sequence: The entire sequence of Drop of Light takes up to ten minutes and can be played in a loop. On request and within reason, the sequence can be adjusted, extended or shortened, for additional costs.

Transport: two trolleys (1mx1mx2m, 10 kg's a piece) full of gear, two pallets (1m40x1mx1m, 250kg's a piece) for the containers

Location: Drop of Light will need to be presented indoors, preferably in a large industrial space, but the studio is open to alternative suggestions. The location must be insured, locked and guarded during the hours that event is not in progress.

Power & water: three groups, 16A, Drop of Light uses about 3000watt. The power group needs to be exclusively for Drop of Light.

Team: Studio Gijs van Bon has it's own team for building, maintaining and breaking down the installation, comprising three people



Build and break-down: the build takes two days, one for the construction and one for the technical tuning. Our team consists of three people on build days, all GvB crew. They arrive the evening before the start of the build.

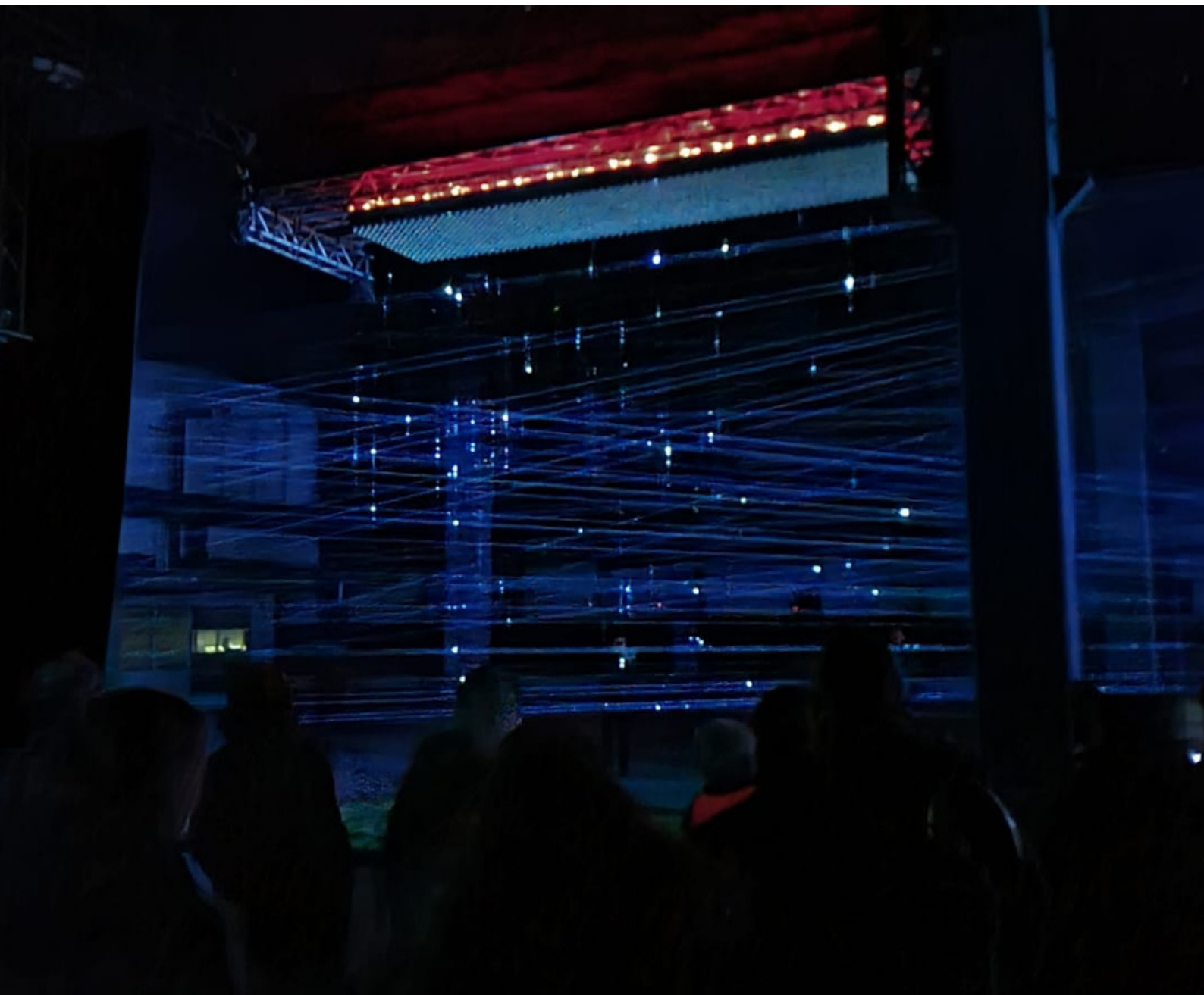
On the evening of the technical build day Drop of Light is ready for performance. Breaking down the installation takes one day with three people. During the build and breakdown, the crew requires for hotel rooms and three meals a day.

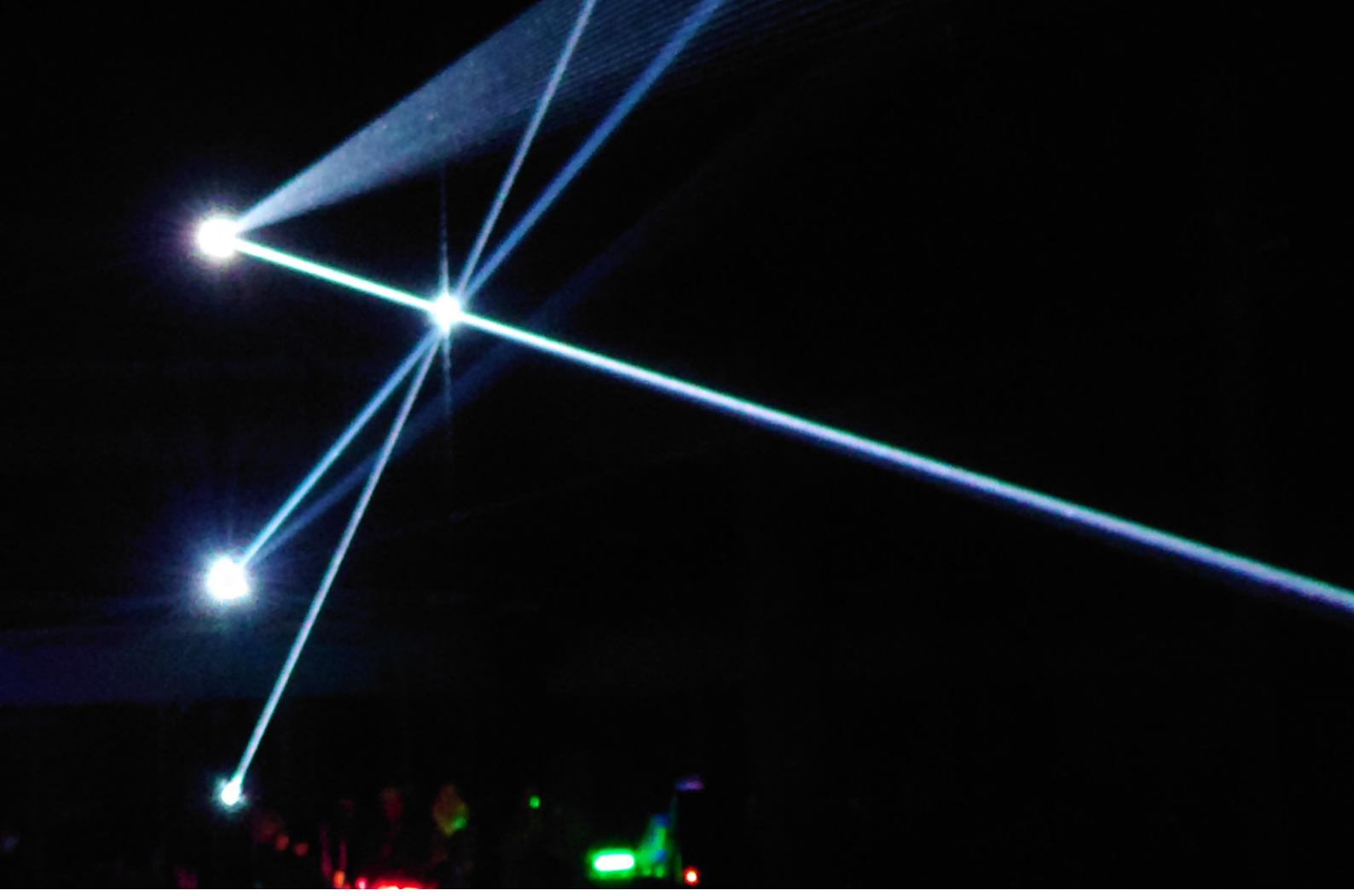
Trusses: In order to hang the fluid containers, three trusses at a minimum height of 4 meters which can be hoisted are required.

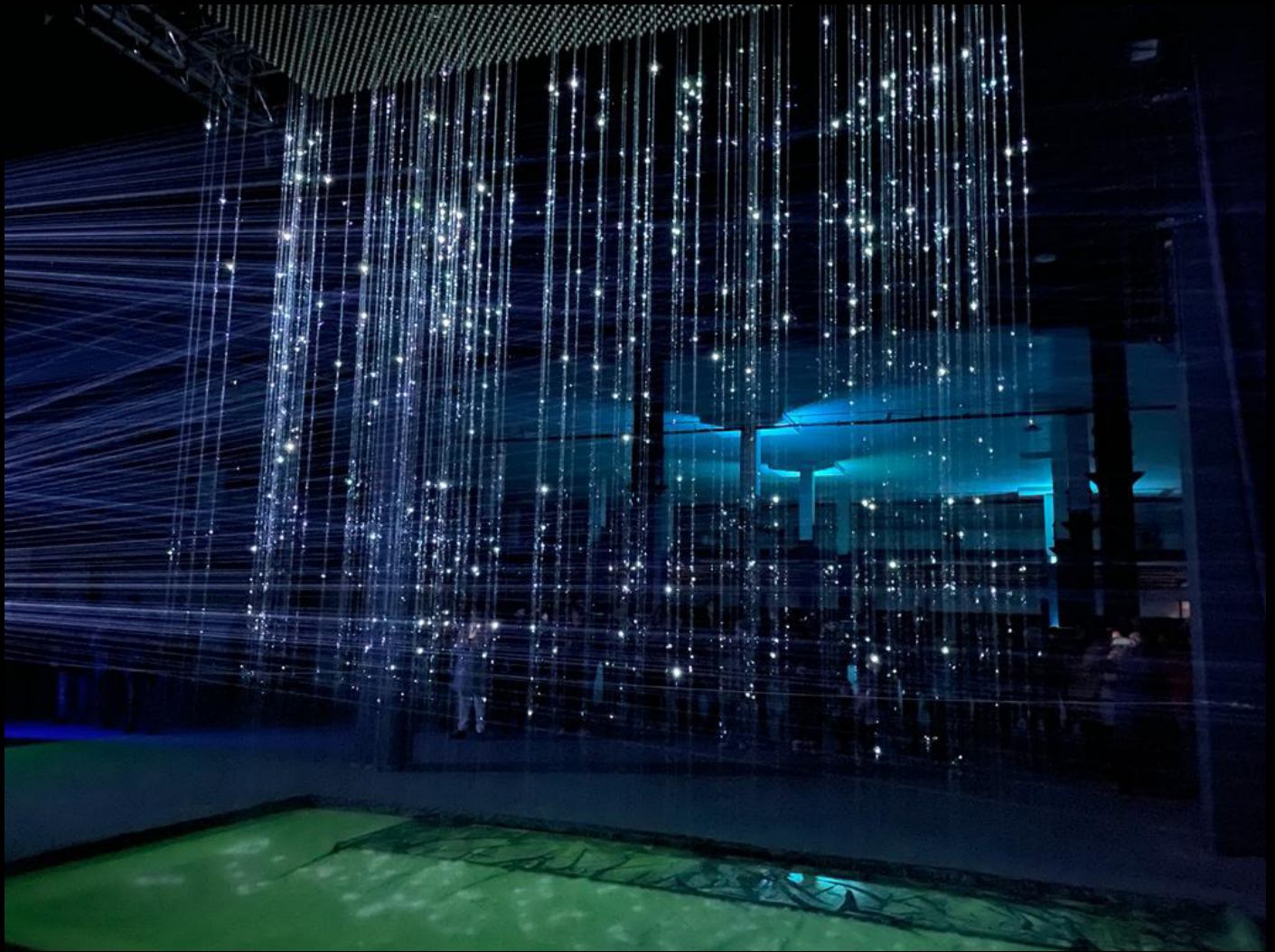
During event: DROP of LIGHT is manned by two people during the days of the event. These people will be onsite for the entire period of the festival or exhibition, and require two single-person hotel rooms and three meals per day for the duration.

Power: three groups, 16A, DROP of LIGHT uses about 3000watt. The power group needs to be exclusively for DROP of LIGHT.

Security/safety: Festival or venue is responsible for the safety of public and equipment.







Creators:

Gijs van Bon (concept, hardware, software)

Friso Modderman (software)

Jurgen Winkel/SonicRider (audio)

Bram Duijf (construction/builder)

Roland Blok (ASML, math/physics)

Ugur Bagci (ASML, electronics)